

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME L * MAY 1942 * NUMBER 5

Educational News and Editorial Comment

★

THE MORALE OF HIGH-SCHOOL YOUTH

RADIO'S Town Meeting of the Air recently presented four winners of a high-school contest on the subject "Youth Faces the Future." Three boys and a girl—they were all sure that their way was right. Too sure! They said, "Follow the President's advice and stay in school. Prepare for leadership in the future. Trust in God. Get ready to win the peace." If they feel this way, they do not represent all their peers. At least three other kinds of morale are being shown by high-school youth.

Some are depressed.—A boy says, "For the first time in my life I feel absolutely useless. It is evident that everyone must do his part in order to win this war, and I feel as if I was wasting time here in school." A college girl writes, "I feel as if college is useless now. It seems that there is no use to plan for a happy future. I am pessimistic about the whole thing and believe that only the very worst will happen."

Some are demoralized.—There have been alarming increases in juvenile delinquency—violence, stealing, drunkenness, and sex delinquency—especially in the cities and in areas near defense projects. The causes are probably complex. Many boys and girls are earning relatively large sums of money, which they do not know how to manage. All boys and girls are reading about wholesale destruction of life and property, and the knowledge of such happenings may en-

courage carelessness of those things which they would ordinarily respect.

Many are complacent.—They are sure that we shall win the war, and they pay little attention to it. One of these complains that the war is causing "noticeable decrease in the amount of Coca Cola, reduction in number of times I can use the car, shotgun-shell shortage."

For the improvement of the morale of high-school pupils, whichever of these classes they are in, we offer four guiding principles.

Give boys and girls a chance to do things directly related to the defense effort. Morale grows bad when people are worried or frustrated and can do nothing about it. When they can do something useful, they feel better. Let pupils study the situation and decide what things they can do that will be useful. Salvaging paper and metal, growing vegetables, working on farms in the summer, helping to care for children of working mothers in nursery schools, working in the civilian defense organization, making Red Cross supplies—all these things are probably better as morale builders than buying defense stamps, or taking first-aid courses, or singing patriotic songs, because their immediate usefulness is more easily grasped.

Give boys and girls a chance to sacrifice. Those who take the war most seriously will feel best if they can make a sacrifice to help win it. Many boys and some girls should work on farms this summer instead of swimming and dancing, and their parents and teachers should let them know that engaging in a useful occupation is the right sort of thing to do. Perhaps the school council could organize a program in which every pupil would give one hour a day to working for the community on projects that promote production, health, and safety. The slothful boy who complained about the shortage of Coca Cola, if he had an opportunity to do his share, would probably wake up.

Give boys and girls a chance to find out what the war means. Many high-school youngsters need help to intellectualize what is going on. Some of the questions that they ask are: "How is this war different from others?" "What should the peace be like?" "How fundamentally do fascism and communism differ?" "Why did the Burmese fight the British?" "How can propaganda be detected?" Many of these questions cannot be answered categorically. To

discuss them in the open, and as objectively as possible, leads to some understanding of the significance of events. Things seem less a demoralizing jumble of unrelated catastrophes.

Do not speed up the high-school program. Opinions differ on this point. The speed-up, or "acceleration" as it is euphemistically called, may be useful in the college, but it has very little value and some definite disadvantages for high-school pupils. Only a very few boys, those taking technical courses which prepare them for positions in which there is a scarcity of labor, should be encouraged to hurry through their high-school programs. For most boys and girls a speeded-up program means no vacation and an extra academic course, and thus little or no time is left for the useful morale-building activities which have been described in the preceding paragraphs. The effort to get through high school six months early can, at the most, benefit only the minority of pupils who will go on to college. The majority, who will not go on to college, might better work during the summers, devote their spare time to defense activities, and graduate at the ordinary maturity level.

GENERAL EDUCATION IN THE AMERICAN HIGH SCHOOL

ALMOST every discussion of an "issue" in secondary education eventuates in a series of recommendations for improving the high-school curriculum. These recommendations usually represent attempts to make the learning experiences of the children more meaningful and significant to them. Teachers, in their thinking about this problem, tend to divide into two groups. Many believe that the curriculum can be improved most effectively through concentrating on a better selection of systematically organized subject matter to be learned. Most of the professional associations to which high-school teachers belong make their attack along this line. There is, however, a growing body of teachers who believe that the problems faced by adolescents in their day-by-day living should constitute the focus of the curriculum and that subject matter should be learned in such a fashion and at such a time as will contribute most to the solution of these problems. This group insists on the importance to teachers of a study of child development.

This point of view is well elaborated in a book published by Scott, Foresman and Company under the title *General Education in the American High School*. The volume, which has resulted from the work of a committee appointed by the North Central Association of Colleges and Secondary Schools, is definitely oriented toward the "new" education. The plan of treatment devotes the first half of the book to a discussion of the background and bases of general education in the secondary school. The Introduction, by B. Lamar Johnson, who acted as chairman of the committee, defines general education as being "general" in these three respects: (1) It is intended for everyone. (2) It involves growth of the total personality. (3) It is concerned with the individual's nonspecialized activities.

Following this Introduction is a chapter by Harold C. Hand, in which he comments at length on some of the social and economic determinants of general education. This chapter is primarily a consideration of the effects that the beliefs and the aspirations of the American people have had on secondary education. Matthew H. Willing then discusses shifting conceptions of secondary education, tracing the "big idea" in the education of adolescents from 1890 to 1930. This historical section is followed with a chapter by Gordon N. Mackenzie, who writes about the basic characteristics of curriculum construction and the issues involved. He describes (1) the most important emphases in recent studies of the curriculum, (2) an analysis of the ways in which the reports of national policy-forming groups have influenced secondary education, and (3) some reactions to recent outstanding courses of study. Then follow two chapters pointing out the implications for general education at the secondary-school level of (1) the sciences of human growth and development (by Robert J. Havighurst, Daniel A. Prescott, and Fritz Redl) and (2) the psychology of learning (by Stephen M. Corey). This section is concluded with a chapter on the underlying issues by Robert J. Havighurst.

The second and more immediately practical part of the volume consists in a discussion of emerging curriculum patterns by Harold Spears, descriptions of superior general-education practices at the secondary-school level by Samuel Everett and George A. Works, an examination of high-school "personnel" activities by Francis C. Rosecrance, a statement of the importance of work experience for

general education by Paul B. Jacobson, and a consideration of valuable procedures for evaluating the outcomes of general education by Ralph W. Tyler.

After reading these chapters, the editors could not escape the conviction that a new and better educational "deal" for the adolescent is not far off. In some schools it is already here. We are living in a period of rapid transition, and, as is usually the case, being close to the changes makes them all the more difficult to see.

SHALL WE CALL OFF GENERAL EDUCATION FOR THE DURATION?

WE SAY flatly that American secondary schools were never in as good a position as they are right now to serve the youth of this country. The reasons for this situation are twofold. First, over the past twenty years a program of general education has been developed which is adaptable to the needs of youth in war as well as in peace. Second, at least some of the brakes which are ordinarily applied to curriculum reform have been taken off. Yet we hear it said that, because of the war, the high school should go back to the old, academic, college-preparatory program, as if that were somehow better adapted to the needs of youth during a war.

The American Youth Commission, after seven years of study, has recommended for youth a program of general secondary education, including work experience and vocational orientation. The Eight-Year Study of the Progressive Education Association has proved that students whose high-school work is of the general-education type do at least as well in college as do those students who have followed the orthodox college-preparatory course. The North Central Association's new book, *General Education in the American High School*, which has been discussed above, reports examples of successful high-school programs from north to south and east to west, in large cities and small towns, and shows that these have a sound basis in social and psychological science. The new state curriculum programs, such as that of Missouri, follow the general-education pattern. There are no organized educational groups calling for a return to the old high-school program. It is hard to locate the source of this call for the past.

The central core of general education is an education for the com-

mon life—an education which is concerned with the common needs of all kinds of boys and girls and which is sensitive to the demands that a democratic society makes on all persons. "Subjects" taught in this kind of education include: health; the intelligent use of natural resources; the study of community, national, and international social problems; and the values of democracy.

Necessary elements of a program of general education in our kind of society are occupational orientation and preparation. This necessity means actual preparation of many pupils for jobs requiring a moderate amount of skill and preparation of other pupils for future specialization in college or professional school. It also means work experience under the auspices of the school if such experience is not obtainable in other ways.

Since general education is made up of these things, which clearly are needed today even more than they were a year ago, there appears to be no basis for a return to the educational past. We suspect that whatever call there is for abandoning our going program of general education comes either from a few people who are tired and have lost their nerve or from those whose personal interests will be served by regression.

We could not abandon general education even if we wanted to do so. We may be dissatisfied, but we cannot turn back. The task of educating 70 per cent of our nation's youth while we are at war creates problems heretofore unthought of. It is our job to make good at this task.

THE STORY OF THE EIGHT-YEAR STUDY

THE first two books of a five-volume report on the Eight-Year Study of the Progressive Education Association have appeared. Published by Harper and Brothers and written by Wilford M. Aikin, Ralph W. Tyler, and their associates, these books report the methods and results of one of the major educational experiments of the past decade. Commenting on the first volume, Professor Thomas H. Briggs says, "This book, along with the supporting details, will undoubtedly rank as one of the major contributions of our age to the improvement of secondary education."

Aikin's book, *The Story of the Eight-Year Study*, gives an overview

of the enterprise, its methods, and results. This story will be widely read. It makes its claims with dignity and backs them with facts. In effect, it says to the colleges, "Here is our claim for a liberalization of college-entrance requirements, and here are the facts. Will you please do something about it?" The other books in the series describe the curriculum experimentation, the evaluation within the schools, and the follow-up study of the college experience of graduates of the thirty schools which participated in the curriculum experimentation. These are the main features of the Eight-Year Study, for which the General Education Board provided over a half-million dollars.

The second volume, entitled *Exploring the Curriculum*, is the work of H. H. Giles, S. P. McCutchen, and A. N. Zechiel. These three men worked as curriculum consultants for the schools in the experiment. In this book they have summarized their experience and offered their conclusions about curriculum improvement, using as examples several of the schools in the Study. Their accounts of the use of the "needs approach" in determining curriculum content are especially valuable. To any curriculum-worker who can learn from the experience of others, we recommend this book.

To the student of education in America, the Eight-Year Study will no doubt be interesting both for its actual findings and for the new ways which it charted in educational experimentation and improvement. This was the first attempt at co-operative experimentation by a group of schools. It has found imitators in the Michigan Study of the Secondary-School Curriculum; the Co-operative Study between Secondary Schools and Colleges being carried on by the Commission on Curricular Problems and Research of the Southern Association of Colleges and Secondary Schools; the Secondary-School Study of the Association of Colleges and Secondary Schools for Negroes; the Ohio Schools Study; the study in progress under the sponsorship of the California Committee for the Study of Secondary and Collegiate Education; and, at the college level, the Co-operative Study in General Education of the American Council on Education, the co-operative study of the Commission on Teacher Education, and the study of the Commission on Junior College Terminal Education of the American Association of Junior Colleges.

In the Eight-Year Study the program of evaluation of the results of education developed by Ralph W. Tyler came to maturity and has been adopted by other studies and in schools and colleges all over the country. The "P.E.A. tests" are now a household phrase among high-school teachers.

The Eight-Year Study invented the summer workshop as a means of in-service education of teachers. The first of the workshops was held at the Ohio State University in 1936 and was sponsored by the Commission on the Relation of School and College and the Commission on Secondary-School Curriculum of the Progressive Education Association. From that time the workshops became the principal means of improvement of teachers in the thirty experimental schools, and the idea spread all over the country.

WORK EXPERIENCE FOR HIGH-SCHOOL YOUTH

THE invidious distinctions implied by those who advocate "work experience" for high-school youth are somewhat disturbing. One dislikes to admit the contrast between *real* work and the more regular learning activities of the high school. The fact that the contrast is frequently there, is to many an indication that the high-school curriculum needs to be revitalized; it does not constitute an invitation to add some *real* experiences on the side. To be either corrupted or reformed through the back door is unpleasant.

Regardless of this rather theoretical objection to their activities, those teachers and administrators who are convinced of the value of giving high-school children some *remunerative* work experience will be interested in an article, "The Merchants Help—The Merchants Profit," appearing in the December *New Jersey Educational Review*. In it, Murray Banks describes how the Millville High School, recognizing the need and importance of "education for making a living in addition to education for good living," has been able to offer training in distributive occupations on a co-operative basis which meets the standards for reimbursement under the federal George-Deen Act of 1936. The merchants of Millville co-operate in the program and give the pupils actual, paid, work experience of the distributive (retail-selling) sort.

The following objectives, which affect both the pupil and the employer, were set up by the high-school teachers involved.

1. The pupil is prepared for gainful work, given a business background that should enable him to qualify for a position of responsibility earlier and is trained to successfully meet and work with people.

2. The pupil is made familiar with fundamental merchandise, with the sources of that merchandise, and he is given an appreciation of values that will make him not only a more intelligent and helpful salesman but also a better buyer of goods for personal use.

3. The pupil has an opportunity for genuine work experience at a wage, supplemented by school instruction directly related to his immediate task. He is brought face to face with actual business situations and given tools with which to cope with those situations.

4. A further important objective is to teach young people to properly evaluate the social and economic position of the merchant and the salesperson. It is believed that if young people generally regard retailing as a worthy occupation, a better type of young person will be drawn into these professions, and businessmen will have more capable employees to advance to responsible positions.

According to Mr. Banks, the merchants of Millville have received the co-operative training program in distributive activities with enthusiasm. The pupils get firsthand experiences in dealing with the public, which contribute to their poise and understanding of human relations. The fact that the federal government, through the George-Deen Act, bears approximately two-thirds of the cost of such instruction may be an added inducement to school districts which otherwise would have insufficient means to provide this type of experience.

LABORATORY ACTIVITIES FOR TEACHERS IN TRAINING

ANY marked improvement in the training of secondary-school teachers is certain to reflect itself sooner or later in an improved program of secondary education. One of the perennial curses of the teacher-training curriculum has been its highly academic nature and the consequent continual emphasis on textbook-reading to the virtual exclusion of learning experiences of other types. The ineffectiveness of this sort of training has been brought out in every study which has been made of the judgment of teachers in service regarding their undergraduate pedagogical preparation. Almost without exception, these people retrospectively praise the laboratory experiences that they had in connection with practice teaching, but they are reluctant to admit much benefit from textbook courses in the philosophy of education, principles of education, or psychology.

A group of students in the School of Education at the University

of Wisconsin, under the leadership of Camilla M. Low and with the assistance of Mary Frances Gates, published an interesting bulletin, *Handbook of Laboratory Activities for Pre-service Teachers at the University of Wisconsin* (for sale by Brown's Book Store at Madison, Wisconsin), which represents a refreshing antidote to too much verbalism in the training of teachers. This bulletin describes the place of laboratory activities in the professional program for teachers at the University of Wisconsin. It contains many short excerpts from case studies written by students, and its whole spirit implies a new and significant trend in the pre-service education of teachers. While the specific facilities described are unique to Madison, the way in which Miss Low and her collaborators have put these facilities to work in the training of high-school teachers has many implications for departments, schools, and colleges of education everywhere. Those responsible for the curriculum in such places frequently forget that the teachers of teachers have an enduring influence. Even though Hartmann's assertion that it is psychologically impossible for teachers to teach differently from the way in which they were taught may be an exaggeration, certainly young teachers are more greatly influenced by percept than precept. The perceptual experiences described by Miss Low for teachers-to-be will have the effect of a breath of fresh air in a professional curriculum that in many places needs resuscitation.

INTERPRETERS OF RESEARCH

SOME time ago the late Glenn Frank urged the necessity of having a large group of able persons spend most of their time interpreting research so that it might affect practice more quickly. Everyone who has thought about what is best in the way of an education and what is practiced by educators has been impressed by the hiatus between the two. One reason is that pedagogical research is reported in so many places and in such obtuse language that the people who are responsible for school practices are infrequently familiar with the findings. The *Education Digest* is an attempt to remedy this situation. *Education Abstracts* and the periodical reviews of the American Educational Research Association appearing in the *Review of Educational Research* also strive to reduce this gap between what should be

and what is. *Progressive Education* has recently included in each issue a section entitled "Human Development in Review," which includes summaries, in popular style, of significant studies.

When one considers, however, the tremendous army of teachers in the United States, the number subscribing to such publications probably represents less than 5 per cent of the total. Most of us take one, two, or three magazines, including the journal of our state teachers' association, and pay almost no attention to the others. The actual number of established educational journals in the United States that carry, among other things, descriptions of research studies approximates six hundred. This number amounts to more than a ton of reading material a year. The significance, or insignificance, of this great amount of pedagogical publication was brought to the editors' attention by the *Classified List of Educational Periodicals* prepared by the Educational Press Association of America. There are forty-four sections under which the journals are classified, and more than six hundred *chief* editors. "Secondary Education" as a heading has but twelve journals beneath it, but there are special categories of art, music, science and mathematics, commercial education, consumer education, English, health, language-teaching, social studies, and vocational education which contain a large number of periodicals published expressly for high-school teachers. Certainly the "generalist" in secondary education has his hands full trying to keep up. To do so is impossible for those who must spend most of their time teaching adolescents.

THE OHIO SCHOOLS STUDY

IN 1937 the Ohio High School Principals' Association decided to initiate an extended survey and reorganization of curriculum practices in the state. Committees were set up, and as a result of their deliberation a document entitled "Proposed Plans for Curriculum Reorganization in Secondary Schools of Ohio" was prepared. The plan included provisions for encouraging the high schools to improve their curricular offerings within the limits of current college-entrance requirements. It was decided to select for the study a group of secondary schools that either had some significant curricular variation or practice under way or were contemplating such variation.

The Ohio colleges agreed to accept graduates from these secondary schools from 1941 through 1949 without regard to the course and unit requirements then in force. A large number of Ohio high schools expressed interest in the plan, and, from a much longer list of applicants, twenty schools were chosen.

The officers of the Ohio Schools Study are H. H. Giles, director, and a central committee of ten members, including representative college and university professors, school superintendents and principals, school-board members, and officials of the State Department of Education. The general understanding is that the schools will study themselves and not receive any large amount of outside direction. "Consultants" will be available, but their chief responsibility will be to provoke discussion and co-ordinate services.

As has been mentioned in a previous item in this section, this activity in Ohio continues the trend in curriculum revision that was firmly established by the Eight-Year Study of the Progressive Education Association. Instead of having experts from the outside work furiously for a short period to find out what is being done so that they can write a report and get back to their classes, high-school faculties are encouraged to study their own activities. That this study involves much more than "stating a philosophy" everyone knows who has gone through a period of staff self-examination. Agreeing on a philosophy in terms of broad generalizations is relatively easy; the hard part is to translate this philosophy into practice. The twenty Ohio high schools participating in the study are well aware of the difficulties that lie ahead. Those who thought the study would be one "that gets under way in September and is done in April" were disillusioned early. In the *Educational Research Bulletin* Mr. Giles writes that within a very short time "the Ohio Study has stimulated effective experimentation in the participating schools. It has initiated new and improved practices within these schools, has brought about a better relationship among principals, teachers, and students, and has brought from principals of most of the schools definite statements as to the benefits of the Study within those schools."

ROBERT J. HAVIGHURST
STEPHEN M. COREY

CONFERENCE FOR TEACHERS OF THE SOCIAL SCIENCES

THE Second Annual Conference for Teachers of the Social Sciences in Secondary Schools and Junior Colleges will be held at the University of Chicago from June 30 to July 2. More than two hundred teachers from all sections of the country responded to the call for the first conference in July, 1941, and it is expected that a much larger group will attend the meeting this year.

The theme for the conference is "Education, Democracy, and War: The Social Sciences and the Problem of Freedom and Restraint in War and Peace." The addresses and discussion programs are designed to stress the consideration of freedom and restraint in terms of permanent cultural values rather than with reference only to the military requirements of a nation at war. Distinguished speakers from the fields represented by the social sciences will emphasize the need for unity of purpose in the struggle to achieve an appropriate balance between freedom and restraint in the post-war reconstruction period as well as during the period of hostilities. Consideration will be given to the particular contributions to be made to this objective by sociologists, lawyers, economists, educators, and political scientists. Three program meetings will be held each day during the conference, the attractive theater of Ida Noyes Hall being reserved for these sessions. Inquiry concerning the conference may be addressed to Professor Earl S. Johnson, Social Science Research Building, University of Chicago.

FIFTH ANNUAL CONFERENCE ON READING

THE Fifth Annual Conference on Reading at the University of Chicago will be held in Mandel Hall on June 24-27, inclusive. The central theme of the conference is "Co-operative Effort in Schools To Improve Reading." This theme was adopted because of the widely recognized need of vigorous campaigns to improve reading programs in both elementary and secondary schools, to increase the reading efficiency of pupils, and to promote desirable types of growth through reading at all levels of school progress.

The conference each half-day will open with a general session that

will define the problems to be discussed more thoroughly in the following sectional meetings for primary-grade teachers, middle-grade teachers, and high-school and junior-college teachers. The topics and speakers for seven of the general sessions follow.

1. "The Role of Reading in the Education of a Free People," Robert M. Hutchins, President, University of Chicago
2. "The Nature of, and Techniques Involved in, Co-operative Effort To Improve Reading," Virgil E. Herrick, University of Chicago
3. "Techniques by Which a School Staff May Co-operatively Identify Strong and Weak Aspects of Its Reading Program and Define Needed Changes," Earle W. Wiltse, Superintendent of Schools, York, Nebraska
4. "Co-operative Techniques in Selecting Appropriate Reading Materials for All Aspects of a School Program Adapted to Contemporary Needs," Willard E. Goslin, Superintendent of Schools, Webster Groves, Missouri
5. "Basic Principles of Learning Underlying the Effective Use of Reading Materials," Stephen M. Corey, Superintendent, Laboratory Schools, University of Chicago
6. "Controversial Issues Relating to Techniques of Teaching Reading and the Contributions of Research to an Understanding of Them," Edward W. Dolch, University of Illinois
7. "Basic Issues and Co-operative Techniques in Developing Improved Programs of Evaluation, with Special Reference to Reading," Hilda Taba, University of Chicago

An unusually fine program has been arranged for each of the sectional groups. The topics and speakers for the high-school and junior-college group follow.

1. "The Broader Ends To Be Attained through Reading and Other Aids to Learning," Paul B. Diederich, University of Chicago
2. "Issues Faced by School Staffs and Guiding Principles Underlying the Scope and Organization of an Adequate Reading Program," Helen M. Roberts, Chairman of the Reading Committee, Public Schools, Denver, Colorado; Hugh McCammon, Stephens College, Columbia, Missouri
3. "Recent Co-operative Efforts To Appraise Reading Programs and To Reorganize Them in the Light of Current News, Frontier Thinking, and the Results of Scientific Studies," Helen M. Roberts and Hugh McCammon
4. "The Nature and Variety of Reading Materials," Kathryn Mansell, Sarah Lawrence College, Bronxville, New York
5. "The Function of the Library in the Selection, Administration, and Use of Reading Materials," B. Lamar Johnson, Stephens College, Columbia, Missouri
6. "Teaching Units That Illustrate Basic Principles of Learning Underlying the Effective Use of Reading Materials," Edith E. Shepherd and Robert B. Weaver, Laboratory Schools, University of Chicago

6. "Co-operative Effort in Improving Teaching Techniques," Paul A. Witty, Northwestern University, and Frances Triggs, Counselor, University Testing Bureau, University of Minnesota

7. "Reading and the Program of Evaluation in the University High School," Henry C. Meckel, University High School, Oakland, California

8. "Recent Efforts To Evaluate Growth in Reading in Junior Colleges," Harold B. Dunkel, University of Chicago

The University extends to teachers and school officers in elementary schools, high schools, and junior colleges a cordial invitation to attend the conference. It is open without fee to those who register for work at the University during the summer quarter. For those not registered a fee of \$5.50 will be charged for the conference period, \$1.50 for all sessions of a given day, or 75 cents for a single session. To obtain additional information or copies of the program, address William S. Gray, Department of Education, University of Chicago.

WHO'S WHO FOR MAY

Writers of the news notes and authors of articles in the current number The news notes in this issue have been prepared by ROBERT J. HAVIGHURST, professor of education at the University of Chicago, and STEPHEN M. COREY, professor of educational psychology and superintendent of the Laboratory Schools at the same institution. HASKELL B. CURRY, professor of mathematics at Pennsylvania State College, discusses the recommendations of the Subcommittee on Education for Service of the War Preparedness Committee of the American Mathematical Society and the Mathematical Association of America, and shows what an important part must be taken in the present crisis by teachers of mathematics. SELMA HATLEY, chairman of the Commercial Department at Wells High School, Chicago, Illinois, and PAUL R. PIERCE, principal of the same school, describe the theory behind a socio-business course for all ninth-grade pupils and the evolution of such a course in their school. W. HARDIN HUGHES, professor of philosophy and research consultant at Pasadena Junior College, Pasadena, California, discusses the place of philosophy in the curriculum of the junior college and, by means of a tentative outline of a course in philosophy, demonstrates its importance in general education.

M. RICHARD DICKTER, teacher of mathematics at Furness Junior High School, Philadelphia, Pennsylvania, presents a detailed discussion of the adaptability of available visual aids to various instructional materials. LIEUTENANT CARLTON E. RICHTER, formerly an instructor in the high school at Albany, Oregon, and now with the Thirtieth Field Artillery Regiment, United States Army, and F. W. PARR, professor of secondary education at Oregon State College, Corvallis, Oregon, present the results of, and the conclusions drawn from, a survey of the efforts made in the secondary schools of Oregon to diagnose reading difficulties and to provide remedial instruction. G. T. BUSWELL, professor of educational psychology at the University of Chicago, and MANDEL SHERMAN, associate professor of educational psychology at the same institution, provide a list of selected references from the field of educational psychology.

The writers of reviews in the current number FRED ENGELHARDT, president of the University of New Hampshire. DON F. THOMANN, instructor in social studies at Knoxville High School, Knoxville, Illinois. J. M. O'ROURKE, vocational counselor at Lane Technical High School, Chicago, Illinois. NELSON B. HENRY, associate professor of education at the University of Chicago. CECILIA RUSSELL, principal and teacher of French at the Loring School, Chicago, Illinois. E. S. LIDE, teacher of English at Sullivan High School, Chicago, Illinois.

MATHEMATICAL TEACHING AND NATIONAL DEFENSE¹

HASKELL B. CURRY
Pennsylvania State College

*

THE purpose of this discussion is to consider the bearing of the teaching of mathematics on national defense. It is entirely appropriate that this relation should be examined at this time; for teachers are concerned with the production of trained men—an asset as important for success in modern war as are tanks, airplanes, or machine guns. Moreover, the teachers of mathematics have an especially important responsibility. Those who allege that algebra, for instance, has no practical use may be surprised to learn that modern war is largely mathematical in character. The firing of projectiles, the design of airplanes, the construction of secret codes, and countless other activities require large amounts of mathematics which is sometimes highly technical. Indeed the role of the teachers of mathematics in our present emergency should not be taken lightly.

The point of view here represented is that of professional mathematicians, namely, those persons who constitute the membership of the American Mathematical Society and the Mathematical Association of America. These two societies in December, 1939, appointed a joint War Preparedness Committee under the chairmanship of Marston Morse, professor of mathematics at the Institute for Advanced Study at Princeton, New Jersey. The function of this committee was to consider all aspects of the relation between mathematics and national defense. The writer is a member of that committee, and most, but not all, of the suggestions here made result from the committee's deliberations. The members of the committee do not, of course, claim to be well informed on all details of

¹ This paper represents the substance of an address delivered before the Association of Teachers of Mathematics of the Middle States and Maryland at Atlantic City, New Jersey, on November 22, 1941. It refers to mathematical teaching in secondary schools and at the elementary level in colleges.

secondary-school instruction. Nevertheless, since they have contact with some of the results of that instruction, they have suggestions which should be helpful.

The committee soon found that its work had two main aspects—research and education. Later it was realized that the educational problems at the advanced level were so different from those at the elementary level that it was expedient to separate the two. Accordingly, the War Preparedness Committee is now divided into three subcommittees, namely, the Subcommittee on Research, the Subcommittee on Preparation for Research, and the Subcommittee on Education for Service. This article is chiefly concerned with the Subcommittee on Education for Service, although a brief statement will be made about the other two.

The Subcommittee on Research is concerned with the actual solution of problems requiring the most advanced mathematical procedures. It marshals for this purpose the best mathematical talent which the country possesses. The chairman is Dunham Jackson, professor of mathematics at the University of Minnesota. Naturally the work of this subcommittee is often secret, but it is public knowledge that the plans call for boards of consultants in certain special fields, namely, aeronautics, ballistics, computation, cryptanalysis, industrial mathematics, and probability and statistics.

The Subcommittee on Preparation for Research is under the chairmanship of Marshall Stone, professor of mathematics at Harvard University. The function of this subcommittee is to deal with the preparation of qualified mathematicians for the highly technical work involving advanced methods. There is difficulty here, for courses on these subjects are not offered in many graduate schools and, in some cases, suitable textbooks do not exist. The subcommittee is also concerned with preparation of bibliographies to enable professional mathematicians whose specialties are not so urgently in demand to do some independent study.

The Subcommittee on Education for Service is headed by William L. Hart, professor of mathematics at the University of Minnesota. This committee is concerned with mathematical education on the more elementary levels, particularly the secondary-school and the elementary college stages. Thus it deals with the mathematics need-

ed by the rank and file of the men who will participate in our war program, whether in the military and naval services or in industry. The committee members have examined carefully the mathematical content of a number of military textbooks in order to obtain as adequate an idea as possible of the mathematical needs of the services. In addition, the chairman has established personal contacts with officers of the Army and the Navy and with certain other persons. A report of this subcommittee¹ has been published in several places.

One aspect of the work of the committee as a whole deserves particular emphasis. It is a curious fact that, although the events of the past decade have made the United States probably the leading mathematical nation in the world, yet we are relatively deficient in the more advanced aspects of applied mathematics. This subject is, of course, mainly a problem of the Subcommittee on Preparation for Research, but interest in it is not confined to that committee. As Professor Morse has pointed out,² the deficiency is partly a matter of our national attitude and thus concerns teachers at secondary-school levels also.

MATHEMATICS IN THE SECONDARY FIELD

A discussion of the relation of secondary-school mathematics to defense should begin by emphasizing the importance of the subject. The statement that modern war is largely mathematical does not mean that the mathematics involved is necessarily advanced. Advanced work is indeed necessary, and experts are needed to do it. In addition to these experts, the country requires men with mathematical training at all stages of advancement. One conclusion to be drawn from the report of the Subcommittee on Education for Service is that men and women who have adequate training in elemen-

¹ William L. Hart, "On Education for Service: Progress Report of the Subcommittee on Education for Service of the War Preparedness Committee of the American Mathematical Society and the Mathematical Association of America," *American Mathematical Monthly*, XLVIII (June-July, 1941), 353-62. Same report in *Mathematics Teacher*, XXXIV (November, 1941), 297-304, and in *School Science and Mathematics*, XLI (November, 1941), 779-87.

² Marston Morse and William L. Hart, "Mathematics in the Defense Program," *American Mathematical Monthly*, XLVIII (May, 1941), 293-302; also in *Mathematics Teacher*, XXXIV (May, 1941), 195-202.

tary algebra and trigonometry will be needed by the hundreds of thousands. The training of these persons will naturally be the concern of the secondary-school and elementary college teachers of mathematics, who can perform a service to the country by making this teaching effective.

The statements made in the preceding paragraph are substantiated by the findings of the subcommittee with regard to the needs of various branches of the service. The mathematical training possessed by an engineering graduate is necessary for engineers in industry, for the officers in the Corps of Engineers and the Signal Corps, for most of the officers in the Coast Artillery Corps and the Navy, and for some in the Ordnance Department and the ground force of the Air Corps. Spherical trigonometry, essential wherever navigation is involved, is needed by officers in the Navy and pilots in the Air Corps and, on account of the surveying necessary, by officers in the Coast Artillery. Solid geometry is useful for developing space intuitions, which are important in antiaircraft fire and in flying. Finally, substantial secondary-school mathematics through the stage of computational plane trigonometry is recommended for large numbers of skilled workers in industry; for officers in the Infantry, the Field Artillery, and some other branches; and for numbers of enlisted men. That these recommendations are not excessive may be seen by comparing them with the more substantial requirements at West Point and Annapolis and with those for flying cadets of the Army Air Corps and for courses of the Reserve Officers' Training Corps in our colleges. As for industry, an engineering friend recently remarked that mathematicians do not generally realize the extent to which trigonometry is used in the shop, in computations connected with drill holes, tapers, screw threads, etc. In fact, the recommendations of the subcommittee are, if anything, too conservative; for an adequate understanding, somewhat more mathematics than that recommended is desirable.

That there will be, and is, a shortage of men and women with these qualifications goes without saying. The writer has no statistics on the extent of the shortage and doubts that anyone has, but the sudden increase in the demand must inevitably mean that the supply will be inadequate. The shortage of trained engineers, even for the

purposes of industry, is known to be acute, and new engineers must be recruited from men who have an adequate foundation in high-school mathematics. Mathematics figures largely in the work of the program for Engineering, Science, and Management Defense Training. It is significant that, of the more than two thousand students enrolled in the courses of Introductory Engineering Studies under the auspices of the Pennsylvania State College last summer, 80 per cent are now employed in industry or industrial activities of the government in such jobs as sheet-metal worker, ordnance inspector, and so on. Some of the persons in charge of that training say that mathematics is one of the subjects most frequently inquired about by prospective employers.

This situation appears to be aggravated, rather than the reverse, by recent changes in secondary education.¹ It is rather generally agreed by college teachers, both of mathematics and of its applications, that the mathematical training of our high-school graduates is inadequate.² In some higher institutions remedial courses, without credit, have to be offered. Moreover, this situation is not improving; indeed some engineering-school authorities, men of judgment who are in position to know, say that the mathematical preparation of high-school graduates is worse now than it was ten years ago. The general opinion among these authorities is that the cause of this situation is the fact that high schools are catering more and more to the average man and that the average man is believed to profit very little from traditional secondary-school mathematics.

This situation merits some discussion. That the average man profits little from traditional secondary-school mathematics is evidently a matter of educational fact which is outside the province of this article; it may be granted that the available evidence supports the statement. What the high schools shall teach, however, is not a pedagogical but a social question; for what the objectives of education shall be is ultimately not for the schools to decide but for

¹ The discussion in the next three paragraphs is not based on the deliberations of the War Preparedness Committee but on considerations which have been brought to the writer's attention independently.

² Of course there are notable exceptions to this statement, and there is probably much variation in the different sections of the country.

the American people. On this account every American citizen who has something to say on this subject should say it. Of course the schools must educate the masses—there can be no democracy without that. At the same time there is no such thing as an average man. Every man who earns an honest living is a specialist in his own particular job, and he does that job better than his neighbors. Indeed, the whole structure of our society depends on this principle of division of labor. It is not undemocratic to take account of differences in aptitude; not to do so is to fail to develop any subject beyond the level of mediocrity—a policy which means stagnation.

So far as mathematics is concerned, the effect of paying exclusive attention to the needs of the “average” man is to delay for a year or more the progress of pupils for whom mathematics is a vital need. Indeed this is putting it mildly; for the German *Abiturient*, who is of about the same age as our high-school graduate, has had the training of a college Junior, including trigonometry, analytical geometry, advanced algebra, and elementary calculus. Even in time of peace the delay in our schools may handicap a boy’s whole life¹—a serious item from the point of view of national efficiency. In time of war the delay becomes an element of real danger to the safety of our democracy.

Thus the high schools of the country are in a position to render a real service in national defense. In fact, there are three principal things for the schools and their teachers to do. In the first place, they should offer to pupils with the necessary aptitude the maximum amount of secondary-school mathematics that they are able to offer. (For the pupils without mathematical aptitude, there are other essential jobs to be performed. What the schools should do with these persons is an important and serious problem, but it has no bearing on the question of mathematics and national defense.) Second, the schools should teach these subjects in such a manner as to impart thorough mastery. Third, they should “sell” the idea of these courses; they should urge properly qualified students to take them as a patriotic duty; and they should advertise to their students, to the members of their staffs, and to the general public, the utility of mathematics for national defense.

¹ The writer has had some personal experience on this point.

Let us now consider some more concrete suggestions with regard to what the teacher can do, either for his own self-improvement or for improving the content of his courses. These relate principally to algebra and trigonometry, the subjects with which college students have the most trouble.

It is commonly stated that mathematics, and in particular algebra, is a language and that a thorough grasp of the meaning of that language is one of the most important benefits which can be obtained from a course in algebra. There is a lot in the analogy, and it may be pushed a little further. If you have ever learned to speak a foreign language, you know that after a certain stage you cease to translate back and forth—you grasp the meaning directly, and you become conscious of having to stop and shift gears, as it were, when you change back to your own language. You have then learned to think in the language. You know that, although study of a language and reflection on its structure are a help, you acquire this facility primarily as a result of use, not through assigned exercises nor applications introduced out of their context, but actual use in real life. Moreover, you know that this ability, once acquired, is not easily lost. This ability to think in algebra is what teachers of mathematics want their students to learn. The analogy gives rise to several suggestions having a bearing on mathematical teaching.

The first of these is that the teacher will improve his own understanding of mathematics, and thus be able to teach it better, if he gets acquainted with its uses. Another analogy may make this statement more clear. Consider the football coach; the good or bad effects of his teaching become evident rather more quickly than do those of other kinds of teaching. No one would hire a football coach simply because he had read a lot about football and had taken courses in methods of coaching and the psychology of the athlete. These would be useful things for him to know, but the *sine qua non* is that he be a ballplayer. Similarly the teacher of mathematics should himself be a user of mathematics. If he cannot be that, he should find out all he can about how mathematics is used. He should get hold of books on such subjects as aeronautics, meteorology, shop practice, control of artillery fire, navigation, cryptanalysis, electric-

ity, and statistics. He should learn how the electrical engineer uses a complex number to represent a sine wave of given frequency as a single quantity, how the civil engineer uses diagrams of various sorts to determine the stresses in a bridge truss, how important trigonometry is for physics and surveying. Training of this kind would be of as much help in the improvement of teaching as would advanced study of mathematics itself, although the latter is important also and the two should be combined. Perhaps this matter should be taken into consideration by the teachers' colleges.

For the pupil such uses of mathematics must come later. Applications made in teaching are more in the nature of illustrations or exercises than uses in the sense here intended, but the principle of use is back of one important recommendation of the War Preparedness Committee, which is quoted verbatim from the report:

In order that an individual may be able to use effectively any particular body of technique, his school training should extend a reasonable distance beyond the level of difficulty at which he will apply the technique. Thus, if we wish to prepare a student so that, later, perhaps after some review, he can use elementary algebra, he should be exposed to advanced algebra, or to some other mathematical subject with elementary algebra as a prerequisite.¹

The point is that he must actually use the basic technique as an instrument to learn something else, the focus of the attention being on the new subject, not on the instrument. A person really learns a language only when he can think in it without being conscious of the language itself.

Mention has been made of the role of the study of a language and its structure. The corresponding process in the learning of algebra is the theory. It is not necessary to emphasize that point. Nevertheless, an inadequate logical foundation is responsible for many difficulties. To teach algebraic thinking, the teacher must show the reasons for things. Practically every textbook is deficient in this regard; in fact, I know only one book that makes an adequate statement of the fundamental laws at the beginning. Supplementary study on the part of the teacher is, therefore, an important matter.

Finally I shall make two comments concerning subject matter. High-school pupils generally know little or nothing about the

¹ William L. Hart, *op. cit.*, p. 354.

technique of computation or about significant figures and dealing with approximations. Thus, to multiply 891.74 by 39.526, they would proceed as follows:

$$\begin{array}{r}
 891.74 \\
 39.526 \\
 \hline
 5.35044 \\
 17.8348 \\
 445.870 \\
 8025.66 \\
 26752.2 \\
 \hline
 35246.91524
 \end{array}$$

If they are dealing with approximate numbers, it is evident that the figures to the right of the decimal point are unknown. If this fact is taken into account and multiplication is performed from left to right, instead of from right to left, the work would appear thus:

$$\begin{array}{r}
 891.74 \\
 39.526 \\
 \hline
 26752.2 \\
 8025.7x \\
 445.9xx \\
 17.8xxx \\
 5.4xxxx \\
 \hline
 35247.0 \text{ or } 35247. \text{ answer}
 \end{array}$$

The unnecessary figures are denoted by crosses, and the last figures have been rounded off. (According to good practice, the computation is carried one more place than is the answer.) This left-to-right multiplication should be familiar because it is used in algebra, and it is also the principle of most computing machines. Pupils should also be taught how to perform rapid computations with two- and three-place numbers. They should be given some problems in which the data are approximate values and are not arranged to come out even. The teacher should make a more thorough study of this subject, say with such a book as Whittaker and Robinson's

The Calculus of Observations.¹ Computations of a statistical nature are likely to be important for women students.

Another suggestion is to make use of military problems in trigonometry. The army uses a special unit, called the "mil," which is $\frac{1}{6400}$ of a complete circumference, and so is approximately 0.001 radian.² This facilitates approximate computations to the degree of accuracy which is appropriate for the field artillery. There are also many interesting trigonometric problems on the aiming of artillery pieces by indirect observation.

CONCLUSION

The conclusion of this necessarily inadequate summary is that the secondary-school teachers have an important part to play in national defense and war, particularly if the crisis lasts for a long time. They should take the job seriously. Remember the words of Napoleon: "The advancement, the perfecting of mathematics, are bound up with the prosperity of the state."³ It may be recalled that one of Napoleon's right-hand men was Monge, the mathematician.

¹ E. T. Whittaker and G. Robinson, *The Calculus of Observations*. London: Blackie & Son, Ltd., 1940 (third edition).

² Richard S. Burington, "The Mil as an Angular Unit and Its Importance to the Army," *American Mathematical Monthly*, XLVIII (March, 1941), 188-89; also in *Mathematics Teacher*, XXXIV (May, 1941), 211.

³ Quoted by David Eugene Smith in *The Teaching of Elementary Mathematics* p. 169. New York: Macmillan Co., 1900.

A CORE SOCIO-BUSINESS COURSE FOR THE NINTH YEAR

SELMA HATLEY AND PAUL R. PIERCE
Wells High School, Chicago, Illinois

★

THEORY and practice in the secondary school are placing a constantly increasing emphasis on living experiences of youth as contrasted with formalized informations and skills. This emphasis makes it necessary to determine the areas of living in which fall the main current and future problems of our young people. The changing social scene during the past two decades indicates at virtually every turn that economic intelligence has been, and will long continue to be, a vital problem to all members of our American social order. The high school, therefore, no longer has justification for limiting its economic training to a portion of the young people and for organizing the training solely on a "production" basis. The material must be made available to all and must include the consumer's point of view.

Whenever social change indicates the need for a new type of training in our high schools, it has been customary for theorists and administrators to advocate a new course, usually a highly specialized course limited to election by a few pupils. A sounder method is to make the new training an ingredient of one of the broad fields or social areas comprising the core curriculum. This procedure permits the content to replace less essential materials and puts it at the disposal of all pupils.

The problem of developing the economic intelligence of pupils has been attacked at Wells High School by reorganizing the ninth-year courses in social studies and elementary business training to eliminate the formalized structural content of the former and the excessive emphasis of the latter on vocations and production. The fact that this reorganization has been an evolutionary process has materially assisted teachers and pupils in their pioneering and has made for convincing outcomes as the enterprise matured.

COMMUNITY BACKGROUNDS

Wells High School is located in a foreign industrial district. Investigations of the social and the economic background of ninth-year pupils have shown a large percentage of the parents to be of foreign birth. Families average 6.3 persons each, and the majority of them own no property worthy of mention. Until the advent of the national defense emergency, nearly 50 per cent of the fathers were unemployed. Of those employed, approximately 40 per cent were skilled tradesmen and 21 per cent were proprietors. Many parents of the community have displayed a leaning toward practical values of education, favoring courses which would develop young people's occupational efficiency. Opportunities for cultural development in the home or travel beyond the Chicago area have been seriously inhibited, for Wells pupils, by economic factors. Data from tests show pupils to be normal in mental ability but possessed of serious reading deficiencies. A large percentage of the graduates are obliged to forgo college and enter employment.

THE CURRICULUM SETTING

To meet the needs revealed by early surveys, a core curriculum was planned and initiated. Its main objectives were to provide for abilities and interests of nonacademic pupils, develop experiences essential for effective everyday living, utilize fully the potentialities of the school community in developing learning materials, incorporate guidance and socializing "extra-curriculum" activities into the regular class work, and develop well-rounded pupil personalities. English, social studies, science, music and art, and physical education were utilized as broad fields, but their materials were organized about common centers of interest. Under these centers were organized unit leads to insure pupil participation in experiences within the centers of interest. For the first semester of the ninth year the centers of interest were "The School," "The Home," and "The Community." The centers for the second semester were "Conservation of Cultural and Material Resources," "Our Changing Methods of Production and Distribution," "Governmental and Other Social Agencies in Co-operative Living," and "Work in Relation to Everyday Living."

Pupils were allowed at this stage to choose either a general or a commercial course. In addition to the core fields, all Freshmen electing the general course studied general mathematics, the content of which was organized largely from the consumer's point of view and covered such topics as "Main Uses of Money in the Family," "Cash versus Instalment Buying," "Cost of Owning an Automobile," "Figuring Cost of Gas, Electricity, and Water," "Computing Nutritive Values of Food," "Costs of Community Services and Enterprises," "Knowing Types of, and Reasons for, Taxes," "Social Security Problems," and "The Mathematics in Bank Services." All Freshmen electing the commercial course took elementary business training—an exploratory guidance course providing training that aimed to develop the technical skill necessary for the performance of various office and store activities, as well as an understanding of the general economic background of business. Pupils were recommended for, or prohibited from, entrance into advanced commercial courses in stenography or bookkeeping on the basis of their success and interest in elementary business training.

EVOLUTION OF A SOCIO-BUSINESS COURSE

As experimentation with the core curriculum and the elective courses progressed, a duplication of experiences was noted in the offerings at the ninth-grade level. Economic content dealing with aspects of consumption, production, exchange, distribution, public finance, and economic reforms was present in greater or less degree in each of the three fields, namely, the core social studies, elementary business training, and general mathematics. Variations in emphasis were, however, apparent. Elementary business training stressed economics as related to business, emphasizing the organization, processes, or routines connected with economic activities. The social-studies course related the economic content to society, showing the social significance of economic institutions or principles. The general-mathematics course centered attention on calculations connected with economic activities.

The recognition of these duplications, together with a growing conviction that more concentrated economic training should be given

at all grade levels as essential training for effective citizenship, suggested a revision of the ninth-year curriculum offerings. The solution of the problem appeared to be a fused course which would incorporate essential business, economic, and social experiences appropriate for the ninth-grade level and would include business calculations wherever they were integral parts of other essential experiences. The course would contribute to the newly established centers of interest. It would eliminate previous duplications. It would give all ninth-year pupils a comprehensive picture of the economic environment and develop their intelligence as consumers whereas previously they had received disconnected portions of social economics, commercial training designed to impart production skills, and drill in calculation isolated from the business situations in which they normally occur.

The proposed fusion was studied in the light of the theory and the practice of socio-business work in secondary schools. An investigation by one of the authors,¹ which covered teacher-training courses in universities, recent high-school courses of study, high-school textbooks, current educational theory, reports of current practices, and experimentation in our own school, proved of marked assistance. Trends found applicable to the situation were as follows:

1. General rather than vocational training is needed at the lower secondary-school levels. The economic and social conditions which lower the age of ninth-grade pupils and make their employment virtually impossible eliminate the need for training in job routines such as has previously appeared in elementary business training. The demand grows that vocational content in textbooks, courses of study, and current practices be replaced with materials emphasizing the consumer or social aspects of business.

2. Overlapping exists in content usually presented in ninth-grade business training and social studies. Attempts to meet this problem are being made through various types of correlation.

3. Business training for the consumer and socio-civic education contributing to economic citizenship, occupational intelligence, and

¹ Selma Hatley, "An Evaluation of a Fusion Course in Elementary Economic Training." Unpublished Master's thesis, School of Business, University of Chicago, 1941.

understandings as applied to business enterprise are considered elements of general education essential for all pupils.

4. Such training should be presented in lifelike situations concerned with the social, civic, and economic problems of the community rather than in the factual content of separate subjects.

5. Training citizens to meet present and future problems may be effectively accomplished through some form of integrated or fused curriculum.

6. At the ninth-grade level, content is often centered in various socio-civic and economic aspects of the local and the national community.

Since the plan was to make the new course available to all pupils, consideration was next given to the organization and the objectives of the Wells core curriculum. These involved units of learning which were co-operatively developed by pupils and teachers and which made wide use of home and community educational facilities. Stock was taken of materials found in existing Wells ninth-year courses, including core social studies, general mathematics, and the regular elementary business training. Duplications were noted and eliminated. For example, the social-studies unit under the center of interest "Our Changing Methods of Production and Distribution" and a unit in elementary business training entitled "Merchandising—the Sources of Supply" were both concerned with investigations of types of productive enterprises, factors needed in production, changes in methods of production, and interdependence of productive enterprises. Again, the social-studies unit for the center of interest "Governmental and Social Agencies in Co-operative Living" included elements of business law which also formed the basis of a unit in elementary business training, the former treating law from the general, the latter treating it from the detailed, point of view. Communication, transportation, travel, business ownership, financial institutions, thrift and budgeting, occupational information, and self-analysis were other topics found in both social studies and elementary business training. Similarly the general-mathematics outline was compared with the outlines of the other two courses to determine what mathematics was pertinent to the socio-business content.

The condensed list of socio-business experiences growing out of the foregoing analyses was next considered in relation to its contribution to present and future social, civic, and economic living in terms of the centers of interest previously set up for Grade IX. These experiences were retained, reorganized, or supplemented as the philosophy of a realistic curriculum might demand. Since the social-studies course had been recently built in terms of the new curriculum philosophy, the deletions were chiefly materials from the older course in elementary business training, which stressed technical skill necessary for the performance of various routines used in stores and offices.

The resulting outline was put into use in September, 1937. On the basis of classroom experience, it has been revised from time to time by a committee of teachers. The following is a condensation of the outline as it stands today.

SOCIO-BUSINESS LIVING: GRADE IX B

UNIT I. ECONOMIC AND SOCIAL ASPECTS OF SCHOOL LIFE

Area of living.—The school

Related functions.—Social relationships, economic consciousness

Primary objective.—To live usefully and happily in the school

Unit elements.—

Why we have schools

How schools are made possible

How the activities of the school develop a well-rounded personality

How the activities of the school train for effective living in a democracy

UNIT II. MANAGING FAMILY BUSINESS AND SOCIAL AFFAIRS WISELY

Area of living.—The home

Related functions.—Social relationships, economic consciousness

Primary objective.—To do one's share in maintaining economic and social balance in home life

Unit elements.—

When should social and economic living begin

What family and personal benefits are derived from economic living

What comprise the social and economic activities of a family

How money is used in the family—budgeting, safeguarding, spending

How the family is housed

How recreation and spiritual life are provided for the family

What relationship the individual has with parents and other members of the family

What the economic characteristics of self-interest, private property, etc., mean

What type of organization the family represents

How the family is representative of the larger social groups

UNIT III. BUSINESS AND SOCIAL ASPECTS OF COMMUNITY LIFE

Area of living.—The local community

Related functions.—Economic consciousness, social relationships

Primary objective.—To develop wholesome attitudes toward, and relationships with, the business and social agencies of the community

Unit elements.—

How the community came to be

What services are offered by the community

How the community services are maintained, organized, and managed

What purpose do these services fulfil

What routine details the individual should know about any of these services

What services the community can and should expect from the individual

What problems confront the community

How the local community relates to the metropolitan community

How the metropolitan area is governed

How Chicago serves its citizens

SOCIO-BUSINESS LIVING: GRADE IX A

UNIT I. HOW CONSERVATION ENRICHES DAILY LIVING

Functions of living.—Economic consciousness, social relationships

Primary objective.—To develop the understanding that individuals and groups should avoid needless waste and so control their earning, spending, saving, and giving that at no time will dependence on others be necessary

Unit elements.—

Definition of terms: "conservation," "resources"

Need for conservation of each type of resource

Means of conserving each type of resource

Agencies fostering conservation of each type of resource

UNIT II. HOW CHANGES IN PRODUCTION AND DISTRIBUTION AFFECT OUR LIVING

Functions of living.—Economic consciousness, social relationships

Primary objective.—To understand how our ways of living are influenced by industrial inventions and discoveries

Unit elements.—

Explanation of terms: "production," "distribution"

Development of new methods of production and distribution

Effects of modern methods of production and distribution on general welfare

UNIT III. ECONOMIC AND SOCIAL SERVICES OF OUR GOVERNMENT

Functions of living.—Social relationships, economic consciousness

Primary objective.—To know the part that government plays in our individual and group living

Unit elements.—

Origin and development of laws or rules of conduct

Administration of laws; organization and operation of local, state, and national governments

Privileges and duties of citizenship

Regulations concerning individual's daily activities

UNIT IV. BUSINESS TRAINING AND VOCATIONAL PLANNING

Functions of living.—Vocation, economic consciousness

Primary objective.—To develop appropriate attitudes toward work and to understand the need for educational and vocational planning

Unit elements.—

Wholesome attitudes toward work

Opportunities for work in Chicago

Essentials in choosing a vocation

Characteristics of a desirable position

Determination of individual fitness for a particular position

Opportunities for preparation for vocation

Routines in securing a position

Classes in socio-business living are taught by either social-studies or business-training teachers. Teachers and pupils are scheduled at Wells to work in groups, several teachers having classes in common. Thus the teacher of socio-business living, the teacher of science, the teacher of English, and the teacher of art, each has his own home room and the home room of each other teacher as his classes. This arrangement permits co-operative planning, prevents duplications, and breaks down subject barriers. Pupil experiences are individualized and socialized through the use of a laboratory plan involving mental-test data, reading rates, and reading-comprehension scores supplied by the school guidance clinic, and data on vision, hearing, and other aspects of health supplied by the Wells Health Center. Throughout the year groups of businessmen, social-service workers, pastors, and other community leaders meet at the school with the principal and teachers to determine ways in which the school may capitalize community resources to improve class work.

RESULTS OF THE ENTERPRISE

The course in socio-business living has proved an extremely effective medium for developing concepts of the consumer as contrasted with the virtually exclusive producer bias of conventional business-training courses at the ninth-year level. That it has accomplished this result so effectively appears to be due, in no small measure, to the integrative effect achieved through correlating business experiences with related civic and social experiences.

Through its place in the core curriculum, the course has served all pupils. It democratically replaces the outmoded policy of providing specialized courses for particular levels of pupil ability and implements the principle of fitting business education to the needs of everyone.

By its dual nature, socio-business living simplifies the election of courses for the individual pupil. He may use the course for either a commercial or a social-studies sequence. This factor also simplifies the complex problem of schedule-making in the high school.

Guidance is especially facilitated by the fact that the pupil does not need to decide between a commercial or a general curriculum in his first year. Since the fused course may be used in any event as the social-studies course for a general or a college-preparatory curriculum, pupil and teachers may use it for exploratory purposes to determine whether the pupil would profit from commercial training later in his high-school career. This flexibility of the course fits in well with the trend to defer technical commercial courses until the upper grade levels of high school are attained.

The experience involved in this pioneering has favorably affected the work in other areas and grade levels of the curriculum. One such effect has been the development of a socio-business core course for the tenth year, which involves the correlation of commercial geography with world-history and offers the pupil a survey of the world from the economic, social, and geographical points of view. Our ninth-year course thus initiates a two-year socio-business sequence which simplifies pupil elections in a complex program, incorporates consumer education into the curriculum, facilitates guidance, and serves to develop the economic consciousness of all pupils.

PHILOSOPHY AND GENERAL EDUCATION

W. HARDIN HUGHES

Pasadena Junior College, Pasadena, California

*

NEED FOR AN INTRODUCTION TO PHILOSOPHY IN A GENERAL-EDUCATION COURSE

THE importance of philosophy in education is not generally recognized. Especially is this true at the upper secondary-school level—in the junior-college years, for example—where there is a dearth of philosophically educated teachers and a too general ignorance on the part of administrators and leaders concerning the nature and the values of philosophical study.

What has philosophy to contribute to general education? In order to answer this question, we shall first need a tentative definition of philosophy. It is not the author's purpose, however, to contend for any particular definition of a term but rather to set forth some typical aspects of education that are fundamental and that may, more or less appropriately, be called philosophical.

In a sense, philosophy may be thought of as the science of things in general. It is, or should be, science at the highest level since it is largely a system of inferences based on the findings of the special sciences. Grounded in science and in the tested experiences of mankind, philosophy attempts to arrive at explicit principles of the widest generality. To a great extent, furthermore, philosophy is concerned with a residue of problems too broad and too universal to be solved in any special science. Seeing things in relation to the whole—getting an overview and a long view of things in general—is an essential characteristic of philosophical thinking. In the words of Whitehead, "the study of philosophy is a voyage toward the larger generalities," a voyage in which we endeavor "to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted."¹ Philosophy is,

¹ Alfred North Whitehead, *Process and Reality*, pp. 4, 14. New York: Macmillan Co., 1929.

above all else, an attitude of mind; a process of thoughtful inquiry; an unusually persistent effort to reflect critically, constructively, and clearly. Philosophy is all this and much more. Its ultimate end is the creation, appraisal, and conservation of human values. Its scope is as wide as the universe.

Apparently, then, philosophy is broad enough and far reaching enough to encompass all the higher values of education. What, after all, are the essential goals of general education if not the cultivation of reflective and creative attitudes of mind; the integration of knowledge, as it is acquired, into larger and more nearly coherent wholes; the expansion of interests and enjoyments of the individual and his group into the higher and finer values of human life; the appreciation, in short, of the true, the good, and the beautiful? These are at once the legitimate ends of education in general and of philosophy in particular. Every successive stage of formal education, from the kindergarten through the graduate schools of the university, should contribute either directly or indirectly to the realization of these ends.

We are concerned here, however, with philosophy as a special field of endeavor. What, to be more specific, is the place of philosophy in the junior-college curriculum? What does it contribute to the general education of students?

The place to be filled by philosophy should be determined, in large measure, by the purposes, aims, and goals of education and by the extent to which these objectives, at least in their cognitive and inferential aspects, are being realized in the other departments of the college. If appropriate emphasis were everywhere being placed on the philosophical aspects of education suggested above, philosophy in our colleges and universities could be taken up at a much higher level than is now possible. But too many students coming from even the best of the lower preparatory schools have had little concern with breadth, exactness, and organization of knowledge and too little practice in critical and reflective thinking. This shortcoming was, however, to be expected after a decade of organized propaganda against "subject matter" and after the substitution of a hodgepodge of activities under the misleading name "integrated program." Vague, disorganized, and crooked information was somehow

to contribute to the process of straight thinking. Add to this the fact that teacher-training institutions have devoted an inordinate amount of their time and energies to method—how to do this and how to do that—and have tended to neglect fundamental and general knowledge, and we have a convincing argument for the inclusion of philosophical study in the education of all students, whether in junior college, standard college, or university.

Philosophers, too, have been a bit partial and derelict. While maintaining that philosophy is the science of things in general, they specialize narrowly to the neglect of the whole. They tend to become idealists, realists, naturalists, pragmatists, etc., but not philosophers in the broadest sense of the word. The typical ist is at the throat, figuratively speaking, of every other ist. From one ist, it is impossible to learn what any other ist really is. Yet every ist is writing treatises on the various philosophical isms; describing types of philosophy that cannot anywhere be found; setting up straw men, if you please, for the childish satisfaction of knocking them down.

This treatment may be well enough when philosophers get together and they alone are concerned; but, when these treatises, either as textbooks or as supplementary reading materials, fall into the hands of students who are seeking the truth, the effects are deplorable. Everywhere beginning students of philosophy are saying, "But no two philosophers agree." All this bickering makes it difficult for the instructor who is interested primarily in philosophy as the science of things in general. He knows full well that a chief characteristic of science is its objectivity, that is to say, the fact that it represents the agreement of those most competent to judge. The student naturally wonders whether a field of knowledge in which the doctors of philosophy disagree so vehemently can rightly be called a science. The student eventually learns, however, that the essential characteristic of a science is contained in the attitude and the method by which the scientist arrives at his conclusions and not in the final certainty of the conclusions reached. If this same student lives long enough and associates with a sufficient number of these learned doctors, he will discover that in their unguarded moments of friendly conversation they sometimes give reason for a belief that they do not totally differ on fundamental issues.

OUTLINE OF A COURSE IN PHILOSOPHY

Let us proceed now to a tentative outline of a course which has some semblance perhaps to what may be called a scientific approach to philosophy. Ten units of this introductory course are briefly suggested in the following paragraphs. For want of space, the other units will merely be mentioned without comment.

Unit I. General Nature and Values of Philosophy.—In this unit an attempt is made by the instructor to clarify in the mind of the student the hazy and mystical notions that he is likely to have concerning the nature of philosophy. The student learns, among other things, that the philosopher has no superhuman insight or extraordinary cunning enabling him to explain the mysteries of the universe; that there are no short cuts, no royal roads to wisdom; and that the philosopher, like any other intelligent person, must build upon the verified conclusions of the sciences and upon the tested experiences of mankind.

Unit II. Empirical Aspects of Knowing.—This unit begins with a psychological discussion of the nature and the limitations of sense data; the meaning of perception; and the perceptual basis of knowledge. Then follow topics such as objectivity of human knowledge; the correspondence criterion of knowledge; strength and weakness of the correspondence criterion; need for other criteria; and, briefly, empiricism as a type of philosophy, together with its place in the modern scientific movement.

Unit III. Rationalistic Aspects of Knowing.—The purpose of this unit is to show that knowing proceeds from a perceptual basis into the realm of inference and generalization. Topics included in this unit are the nature of inductive and deductive reasoning; the coherence criterion of knowledge—its strength and its weakness; the interrelations of the rationalistic and the empirical aspects of knowing; and some outstanding rationalists in the history of philosophy.

Unit IV. Intuitionist Aspects of Knowing.—The purpose of this unit is to clarify the meaning of intuition and to find an appropriate place for intuition in relation to the knowing process. The following are some of the topics included: the varied definitions of intuition; the illusive and concealed nature of intuition; the inconsistencies of intuitions; mystical interpretations of intuition; a naturalistic interpretation of intuition; intuition in everyday life; intuition in ethics, art, and education; and some outstanding intuitionists in various fields of human thought and action.

Unit V. Pragmatic Aspects of Knowing.—The purpose of this unit is to set forth the essential principles of the pragmatic method and to show its application to the general processes of knowing. Illustrations of this method may be drawn not only from the special sciences but from everyday life as well. Consequences, workability, livability—these are important characteristics of the pragmatic criterion. The student easily becomes interested in the varied applications of the pragmatic concept to religion, art, ethics, education, etc.

Unit VI. Authoritarian Aspects of Knowing.—This unit sets forth the limitations of individual experience and our consequent dependence on the testimony of others. The meaning of "authority"; authority as an aid and as a hindrance to reflection; authority in everyday life; authority in an age of specialization; authority and religion; authority and philosophy; criteria by which authorities are evaluated—these are some of the varied topics for thought and study in this unit.

Unit VII. Individual Aspects of Knowing.—In this unit is pointed out something of the extent to which knowing is an individual matter. The study and discussion usually lead to such conclusions as the following: that every individual begins "at scratch" with respect to knowing, irrespective of the cultural status of the society into which he is born; that differences in ideas and philosophies among people in general are due, at least in part, to the fact of individual differences, innate and acquired; that the primary meaning of a term or symbol in language is individual and personal in nature; that language serves the double purpose of reinstating the individual's own experience and of stimulating him to recombine the elements of his experience into new configurations; and that, in any case, the knowing process takes place in a meaning situation in which the individual is a conscious center.

Unit VIII. Social Aspects of Knowing.—The purpose of this unit is to supplement the preceding unit by showing something of the ways and the extent to which the cultural status of a society influences the knowledge of the individual. Such conclusions as the following are usually reached: that an essential difference between a primitive and a civilized society lies in the quantity, the variety, and the reliability of what each knows; that the individual interests which motivate the process of knowing are largely the result of social conditioning; that even the possibility for such interests is due, in large measure, to the total mentality and culture of a people; that the particular aspects of knowing emphasized at any particular period in the history of mankind are determined largely by society; that there have been periods in the history of human knowledge characterized by blind respect for authoritarian utterances and by the absence of most of the criteria of truth; that there have been other periods of a more sensate nature in which empirical and pragmatic standards were characteristic; and still other periods when the rationalistic standards of truth were most prominent.

Unit IX. Scientific Aspects of Knowing.—This composite unit must necessarily include all the other aspects of knowing thus far discussed. Scientists everywhere recognize the importance of the empirical, the rationalistic, the intuitional, the pragmatic, as well as the authoritarian, aspects of knowing. The several steps of scientific method are here set forth and illustrated. The requisites of a good hypothesis; the meaning of experiment; the general nature of inference, probability, and generalization; the meaning of objectivity; and the law of parsimony—all these topics have a place in this unit. Reference is again

made to the several criteria of knowledge, namely, correspondence, coherence, consequence, and their application to scientific knowledge.

Unit X. Philosophic Aspects of Knowing.—The purpose of this unit is to re-emphasize the claim that philosophical knowledge is a synthetic product made possible by all the aspects of knowing thus far considered. As a science of things in general, philosophy is more than the sum total of knowledge distributed throughout the special sciences. Philosophy, we conclude, is related to the principles and laws of the special sciences as each of the special sciences is related to its own particular facts. By this time the student is more or less convinced that philosophizing can be a respectable and a worth-while activity if only it can "keep its feet on the ground." The ground of scientific philosophy is in the form of tested hypotheses, principles, and laws. Any would-be philosopher who attempts to manufacture his own special-science principles or accepts untested hypotheses for the support of his pet theories accomplishes nothing more than to add to the academic confusion and to the disrepute in which philosophy is too generally held.

The foregoing units may well fill an entire semester in introductory philosophy, or they may be telescoped into half the time, depending on the interests of students and instructor. If the shorter time is used, several alternatives are possible for the remaining portion of the course. Sometimes the writer of this paper has followed the unit on the "Philosophic Aspects of Knowing" with a unit on the philosophy of nature, covering such topics as the meaning of nature; space, time, and relativity; meaning of causation; determinism versus indeterminism; concept of life; philosophy of evolution; the concept of mind; and the concept of God. Most of these topics, however, may be included as an integral part of the unit on "Philosophic Aspects of Knowing" outlined above, especially if a liberal amount of time is given to carefully selected source materials from representative philosophers both ancient and modern.

There are many ways, contents, and methods, however, for the effective introduction to philosophy. Some instructors will prefer one; some, another. Perhaps all will find it desirable, from time to time, to vary both content and method with a view to experiencing the novelty and increased interest which come from freeing one's self from a rut.

ADVANTAGES AND LIMITATIONS OF AVAILABLE VISUAL AIDS

M. RICHARD DICKTER

Furness Junior High School, Philadelphia, Pennsylvania

*

THE purpose of this article is to describe the various types of visual aids in current use, their advantages and disadvantages, and the apparatus necessary for using each. The development of content material for each of these aids, making possible their wider use, offers a new and worth-while field of endeavor to teachers. Appropriate content for each of three purposes is needed: to motivate interest, to enrich subject matter, and to provide specific instructional materials. Once the content is established, it then becomes necessary to decide what type of visual aid is best adapted for particular material. This discussion of available visual aids will serve to clarify the latter problem.

OPAQUE PICTORIAL MATERIALS

Description.—Opaque pictorial materials, such as photographs and illustrations on post cards and those taken from books, magazines, and similar sources, are numerous, easily obtained, and relatively inexpensive. A single picture of this kind is frequently more effective than a lengthy description. Unless there is a sufficient number of them for the entire class, the main limitation of these pictures is that they can be seen by only one pupil or by a small group of pupils at a time. This difficulty can be overcome by projecting the pictures, if they are not too large, onto a screen by means of an opaque projector.

Advantages of the opaque projector.—(1) By means of reflected light the opaque projector will project any opaque flat or nearly flat material, such as drawings, graphs, diagrams, and any written or typewritten material, such as lists of examples and problems.

(2) The opaque projector will reproduce color on the screen. (3) The device is extremely simple to operate. (4) It is possible to buy a combination projector for opaque materials and for standard glass slides, which measure three and a fourth by four inches. The change from one type of projection to the other can be made instantly. By means of suitable accessories this combination projector can likewise be adapted for the projection of two-by-two-inch glass slides and thirty-five-millimeter filmstrips.

Disadvantages of the opaque projector.—(1) Because the opaque projector projects by reflected rather than by transmitted light, much of the light is lost. It is necessary, therefore, that the room in which the projection is taking place be thoroughly darkened. (2) The opaque projector is rather bulky in shape, but this fact is not a serious consideration so far as portability is concerned because the newer models are light in weight.

THE GLASS SLIDE

Description.—The glass slide is viewed and projected by transmitted light. The outside dimensions of the standard American glass slide are three and a fourth by four inches. The substandard two by two inch glass slide is also being used because it is somewhat less expensive to produce and because it requires less space for storage. However, the smaller slide offers less surface on which to work, and it must be made more carefully. This slide must be magnified by more diameters than the larger one in order to obtain a screen image of the same size. Therefore, any defects in the smaller slide will become more apparent. All other things being equal, it will also be necessary to use a more powerful lamp in the projector to obtain a screen image of the same size and brilliancy as is obtained with a slide of standard size.

The glass slide usually consists of the following items: (1) the glass plate or other material containing the subject to be projected, (2) a mat to mask off a picture area no larger than the aperture gate of the projector, (3) cover glasses to protect the picture surface, (4) binding tape to bind together the several parts of the slide, and (5) a thumb mark to indicate the proper position of the slide when it is placed in the projector. Glass slides may be made by the person who

wishes to use them, or they are available for loan or sale from numerous distributing agencies.

Two special kinds of glass slides will be described in detail: the photographic glass slide and the handmade glass slide. Photographic glass slides are made from negatives by contact printing or by enlarging just as readily and in the same way as prints are made on paper. The photographic slide is merely a positive image on a piece of glass coated with a light-sensitive emulsion, just as a print is a positive image on a piece of paper coated with a light-sensitive emulsion. The necessary materials for making photographic slides, with complete packaged instructions, may be purchased from any of the several companies producing photographic materials. It is possible to tint these photographic slides with water colors if the user desires to do so.

Another method of producing a glass slide is to make a positive on film of the negative and to mount this positive between two pieces of cover glass for projection. The technique is the same in both cases, the type of material used for making the positive being the only difference.

By a handmade glass slide is meant a non-photographic slide. Writing or drawings which are to be projected may be placed on such mediums as clear glass coated with clear shellac, etched glass, or lumarith by means of lead pencil, colored pencil, India ink, and colored ink. If these slides are to be used permanently, they can be mounted in the usual manner. If they are for temporary use only, they can be mounted temporarily or not at all. Since cellophane will take India ink, it can also be used in constructing handmade slides. Cellophane is of particular service in making typewritten slides. Simply place a sheet of cellophane of the proper size inside a folded sheet of carbon paper and type on the cellophane through the carbon. Removing the ribbon, as when cutting stencils, will be advantageous in producing a better impression. The cellophane slides can be mounted permanently or temporarily. The silhouette slide offers interesting possibilities. It is made by pasting cutouts of opaque paper on ordinary cover glass. When projected on the screen, a silhouette effect is obtained.

Method of use.—The glass slide can be viewed by transmitted light for individual use, or it can be projected by transmitted light onto a screen for group use. Standard slides measuring three and a fourth by four inches are projected by means of slide projectors of the same size; the smaller slides measuring two inches square, by projectors of the smaller size. It is possible to adapt the larger projectors for use with the smaller slides.

Advantages of the glass slide.—(1) It offers maximum brilliance on the screen. (2) The slide may be left in the projector for any length of time. (3) It may be used in a room not completely darkened. (4) Glass slides are easily made by the person who wishes to use them. (5) They can be conveniently arranged for use in any desired order.

Limitations of the glass slide.—(1) A large collection may require considerable storage space. (2) The slides are easily broken. (3) They are somewhat expensive, although not unduly so in relation to their value.

THE THIRTY-FIVE-MILLIMETER FILMSTRIP

Description.—The filmstrip consists of a sequence of pictures on a strip of thirty-five-millimeter film, either in black and white or in color, made in any miniature camera taking thirty-five-millimeter film. The pictures may be either of single-frame size, three-fourths of an inch by one inch, or of double-frame size, one and a half by one inch.

Pictures made on natural-color film are returned processed as positives on film, ready for viewing or projection. Pictures made on the usual black-and-white film are developed as negatives, from which the desired number of positive copies on film may be made by contact printing. There is now available a black-and-white reversal film, which, when processed, results in positive images on the film, thus eliminating the intermediate step of making negatives.

Sound filmstrips can be prepared by making a series of still pictures on thirty-five-millimeter film and recording the necessary explanatory material on records. The record, if recorded at seventy-eight revolutions per minute, may be reproduced on any standard phonograph as the pictures are projected.

Method of use.—Because these thirty-five-millimeter pictures are so small, it is customary to project them. Any projector for two-inch square slides may be used for the purpose if it is equipped with a thirty-five-millimeter filmstrip attachment. The standard glass-slide projector may also be used by fitting it with one of these attachments.

Advantages.—(1) The filmstrip is economical to make, to buy, or to ship from place to place. (2) It is easily made. (3) It is light in weight. (4) Very little storage space is required. A roll of from eighteen to seventy-five pictures may be kept in a small can. (5) There is no danger of getting the pictures out of order. (6) There is no danger of breakage.

Disadvantages.—(1) The unprotected film is easily damaged. (2) It is impossible to vary the order of presentation of the individual pictures except by skipping back and forth. However, these two limitations can be overcome by cutting apart the several frames and mounting the individual transparencies on two-by-two-inch glass slides.

THREE-DIMENSIONAL PICTURES

Description.—The three-dimensional picture, known as a stereograph, has the desirable feature of depth, the advantage of reality being thus added to the visualization. This advantage is of importance in any situation, but particularly in solid geometry, where so many pupils find it difficult to visualize three dimensions in two-dimensional drawings.

Method of production and use.—There are special two-lens cameras for producing three-dimensional pictures. However, they can also be made on regular black-and-white or color film with any still camera which is fitted with a stereograph attachment over the lens to give the necessary two images on the same piece of film. The film is processed in the usual manner. The thirty-five-millimeter miniature still camera is particularly adapted for producing stereographs inexpensively in this way.

For individual use, the resulting stereographs may be viewed as positives on film (in either filmstrip or mounted-slide form) or as positives on glass or paper (either contact size or enlarged) through

suitable stereograph viewers. For group use, thirty-five-millimeter stereographs (in either filmstrip or mounted-slide form) may be projected on a screen, by means of projectors made or adapted for the purpose, and viewed through suitable spectacles.

MOTION PICTURES

The motion picture, silent and sound, is sufficiently familiar that little need be said about it except that it should not be used for instructional purposes unless motion is essential. In other cases the still picture will serve better and more cheaply.

The question of silent versus sound pictures is still a controversial one. Economy and ease of production would seem to indicate that the silent film, either with titles or with spoken comment by the teacher, should be used in preference to sound film if the dialogue on the sound track offers no distinct advantages. It should be kept in mind that the comments on the sound track cannot be adapted to particular teaching situations if such adaptation should be advisable.

REMEDIAL-READING INSTRUCTION IN OREGON SECONDARY SCHOOLS

L.T. CARLTON E. RICHTER
Thirtieth Field Artillery, United States Army

F. W. PARR
Oregon State College, Corvallis, Oregon

*

INTRODUCTION

THERE has been much interest in Oregon, as in many other states, in the development of remedial-reading programs to meet the needs of secondary-school pupils. Particular attention was focused on this problem when, two years ago, the Oregon Advisory Committee of the Coordinated Studies in Education conducted a state-wide reading survey, in which some forty thousand pupils were tested. The results of the survey provided ample evidence of the need for diagnostic and remedial-reading instruction at all levels of the school and, to a greater or less degree, in each participating school. These findings prompted the Oregon High School Principals Association to appoint a special committee to study the status of diagnostic and remedial-reading instruction in the secondary schools of the state. The present article is based on the report of this special committee, which was presented at the 1940 annual meeting of the Principals Association.

The data for the survey were secured by means of a detailed questionnaire, which was divided into five major sections: Part A dealt with the organization and administration of the remedial-reading program; Part B covered the personnel who assumed the responsibility of offering remedial-reading instruction; Part C was devoted to the materials used in remedial-reading programs; Part D listed the various techniques used in remedial-reading instruction; and Part E dealt with the evaluation of such instruction.

The State Department of Education, in January, 1940, sent a copy

of the committee's questionnaire to each of the 301 secondary schools in Oregon. These schools, as shown in Table 1, were classified into three groups for the purpose of the survey.

Questionnaires were returned from 211, or 70 per cent, of the 301 Oregon secondary schools. The percentage of returns from each of the three groups showed slight variation from the figure representing the total returns. Although the results in the survey are based on the responses found on the questionnaires, it is probably safe to assume that few of the ninety schools failing to respond to the inquiry are attempting to carry out a remedial-reading program, for it is com-

TABLE 1
NUMBER AND PERCENTAGE OF REPLIES RECEIVED FROM
SECONDARY SCHOOLS IN OREGON

GROUP OF SCHOOLS	NUMBER OF SCHOOLS IN STATE	SCHOOLS REPLYING TO QUESTIONNAIRE	
		Number	Per Cent
Schools with fewer than five teachers.	118	83	70.3
Schools with five or more teachers.	149	106	71.1
Junior high schools.	34	22	64.7
Total.	301	211	70.1

mon practice for school principals to discard a questionnaire if the contents do not apply to their situations. The discussion of various phases of diagnostic and remedial instruction which follows applies, however, only to the 211 Oregon secondary schools from which questionnaire data were available.

ORGANIZATION AND ADMINISTRATION OF THE REMEDIAL-READING PROGRAM

In any well-organized program of remedial reading, it is essential that tests be given at regular intervals to determine the needs of the pupils and also to evaluate the effectiveness of the remedial instruction. Table 2 presents an analysis of the scope of the testing program reported by Oregon secondary schools.

The first section in Table 2 reveals that 88 schools, or 41.7 per cent of the 211 secondary schools responding to the questionnaire, give

TABLE 2
SCOPE OF THE TESTING OF READING ABILITY IN 211
OREGON SECONDARY SCHOOLS

QUESTION AND ANSWER	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Is a periodic survey of reading ability made in your school?								
Yes.....	33	39.8	40	37.7	15	68.2	88	41.7
No.....	38	45.8	47	44.3	5	22.7	90	42.7
No answer.....	12	14.4	19	17.9	2	9.1	33	15.6
Does it include all pupils?								
Yes.....	18	21.7	14	13.2	11	50.0	43	20.4
No.....	19	22.9	31	29.2	3	13.6	53	25.1
No answer.....	46	55.4	61	57.6	8	36.4	115	54.5
Does it cover special grades?								
Yes.....	21	25.3	31	29.2	4	18.2	56	26.6
No.....	6	7.2	5	4.7	3	13.6	14	6.6
No answer.....	56	67.5	70	66.1	15	68.2	141	66.8
Which grades are covered?								
Grade VII.....	2	2.4	2	1.9	5	22.7	9	4.3
Grade VIII.....	1	1.2	2	1.9	3	13.6	6	2.8
Grade IX.....	20	24.1	25	23.6	3	13.6	48	22.7
Grade X.....	6	7.2	6	5.7	.....	.....	12	5.7
Grade XI.....	3	3.6	2	1.9	.....	.....	5	2.4
Grade XII.....	1	1.2	2	1.9	.....	.....	3	1.4
No answer.....	62	74.7	76	71.7	15	68.2	153	72.5
How often is a survey of reading ability conduct- ed in your school?								
Three times a year.....	.....	.....	1	0.9	1	4.5	2	1.0
Twice a year.....	3	3.6	7	6.6	4	18.2	14	6.6
Each year.....	28	33.8	23	21.7	6	27.3	57	27.0
Every two years.....	1	1.2	1	0.9	1	4.5	3	1.4
As desired.....	1	1.2	2	1.9	.....	.....	3	1.4
No answer.....	50	60.2	72	68.0	10	45.5	132	62.6
In what year was a re- medial-reading program first attempted?								
Before 1930.....	1*	1.2	.....	.....	1*	4.5	2	0.9
1930-31.....	.....	.....	.....	.....	1	4.5	1	0.5
1931-32.....	.....	.....	.....	.....	.....	.....	.....	.....
1932-33.....	.....	.....	1	0.9	.....	.....	1	0.5
1933-34.....	.....	.....	1	0.9	.....	.....	1	0.5
1934-35.....	.....	.....	.....	.....	.....	.....	.....	.....
1935-36.....	.....	.....	3	2.8	3	13.6	6	2.8
1936-37.....	3	3.6	4	3.8	1	4.5	8	3.8
1937-38.....	3	3.6	2	1.9	.....	.....	5	2.4
1938-39.....	1	1.2	10	9.5	4	18.2	15	7.1
1939-40.....	14	16.9	14	13.2	5	22.7	33	15.6
Not certain.....	1	1.2	.....	.....	.....	.....	1	0.5
No answer.....	60	72.3	71	67.0	7	31.8	138	65.4

* The first year in schools indicated by an asterisk was 1927-28.

reading tests regularly. It is significant to note that 15 of the junior high schools, or 68.2 per cent of the 22 respondents, give periodic reading tests. The percentage of junior high schools giving periodic reading tests is nearly twice as great as that for either of the other two groups.

It is also interesting to note that only a fifth of the 211 Oregon secondary schools include all pupils in their periodic testing surveys. A comparison of the first two sections in Table 2 shows that only half of the schools in which periodic tests are given include all their pupils. Most of the schools that make periodic surveys give reading tests to certain grades or classes, this trend being noted in each of the groups listed in Table 2. As might be expected, tests are given most frequently at the ninth-grade level in conventional high schools and at the seventh-grade level in the junior high school.

Table 2 shows that few schools attempt to give reading tests more often than once a year. A total of 57 of the 211 Oregon schools, or 27 per cent, indicated that they test their pupils' reading achievement annually, whereas only 16 schools give such tests more frequently.

That systematic remedial-reading instruction is a recent innovation in Oregon schools is indicated by the data in Table 2 which present an analysis of the answers to the question: "In what year was a remedial-reading program first attempted?" Only thirty-nine schools provided such instruction before 1939-40. However, it is encouraging to note that eighty-seven secondary schools in Oregon were attempting to meet the needs of their retarded readers during the year in which the survey was conducted (1940-41). It is evident that there is a growing interest in this type of work in Oregon.

In replying to the question, "Is your remedial-reading instruction organized for individual or group treatment or both?" few schools admitted that they restrict their instruction to either groups or individuals. As might be expected, the schools that attempt remedial instruction try to provide for both group and individual needs.

PROVISIONS MADE FOR REMEDIAL-READING INSTRUCTION

Remedial-reading instruction in Oregon secondary schools is included most frequently in an English class, as is shown in Table 3. Nearly half of the schools reported such a plan. Other approaches

found in a number of the schools are: (1) providing remedial instruction as an incidental phase of every subject, (2) special tutoring of retarded readers, (3) special remedial-reading class, and (4) in-

TABLE 3
PROVISIONS MADE AND PERSONS RESPONSIBLE FOR REMEDIAL-READING
INSTRUCTION IN 211 OREGON SECONDARY SCHOOLS

	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Remedial-reading instruction provided:								
In an English class.....	48	57.8	46	43.4	10	45.5	104	49.3
As incidental part of every subject.....	25	30.1	18	17.0	4	18.2	47	22.3
As special tutoring of poor readers.....	14	16.9	15	14.2	5	22.7	34	16.1
In special remedial-reading class.....	5	6.0	23	21.7	6	27.3	34	16.1
As phase of an orientation class.....	13	15.7	15	14.2	2	9.1	30	14.2
In how-to-study class.....	5	6.0	4	3.8			9	4.3
In remedial English class.....			4	3.8	2	9.1	6	2.8
In reading class.....					3	13.6	3	1.4
By miscellaneous methods.....	2	2.4	5	4.7	1	4.5	8	3.8
No answer.....	27	32.5	40	37.7	3	13.6	70	33.2
Person responsible:								
English teacher.....	45	54.2	58	54.7	14	63.6	117	55.5
Special remedial teacher.....	1	1.2	7	6.6	4	18.2	12	5.7
Guidance teacher.....	9	10.8	2	1.9	1	4.5	12	5.7
All teachers.....	6	7.2	3	2.8	1	4.5	10	4.7
Principal.....	4	4.8	5	4.7			9	4.3
Dean of boys.....	1	1.2	2	1.9			3	1.4
Dean of girls.....			3	2.8			3	1.4
Orientation teacher.....	1	1.2	1	0.9			2	0.9
Reading teacher.....					2	9.1	2	0.9
Miscellaneous.....			3	2.8	2	9.1	5	2.4
No answer.....	28	33.7	36	34.0	2	9.1	66	31.3

cluding remedial-reading instruction as a phase of an orientation class.

Relatively few Oregon schools attempt to provide remedial instruction outside the regular classes listed in Table 3. Only sixteen schools reported that they permit their pupils to be taken out of

their classes for special remedial instruction; only fifteen schools carry on such work after school; nine schools use regular study periods for their remedial work; five schools have their pupils report for this work before school begins in the morning; and two schools use the activity period for this purpose.

SPECIAL TRAINING OF REMEDIAL-READING INSTRUCTORS

Table 3 reveals that the responsibility for remedial-reading instruction in Oregon secondary schools is usually delegated to English teachers. Other persons are in charge of such instruction in only 20 per cent of Oregon schools. These facts imply that English teachers in Oregon should be prepared to offer remedial instruction. But are they? An analysis of the responses to the question asking for the amount of training possessed by the teachers reveals that those who are asked to assume the responsibility of administering diagnostic and remedial instruction in Oregon schools are inadequately prepared to do this type of work. English teachers are as unprepared for this type of responsibility as any other group. Teachers in only 39 of the 211 Oregon secondary schools acknowledged that they had received special training in diagnostic and remedial teaching, and the average for these teachers was only two courses per person. It is also interesting to note that most of these special courses were taken during the five-year period of 1935-40.

AMOUNT OF TIME DEVOTED TO REMEDIAL READING

The most common practice in schools that provide remedial-reading instruction is to devote five hours a week to this work, or about 20 per cent of one teacher's total load. However, the amount of time devoted to specific remedial instruction varies from thirty minutes a week to ten hours, or from 2 per cent to a third of the total teaching time.

MATERIALS USED IN DIAGNOSIS AND REMEDIATION

The data for this section of the survey were classified under two main headings: (1) materials used in diagnosing reading disabilities and (2) materials used in the remediation or correction of reading difficulties.

Since the principal tools for diagnosing reading difficulties are tests, the schools were asked to check the types of tests that had been

used for this purpose. Table 4 presents an analysis of the responses. It is interesting and perhaps significant to note that the percentage of junior high schools is greater than the corresponding percentage of

TABLE 4
METHODS OF MAKING READING DIAGNOSES USED IN
211 OREGON SECONDARY SCHOOLS

	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Materials used:								
Diagnostic reading tests	31	37.3	45	42.5	15	68.2	91	43.1
Mental tests.....	20	24.1	30	28.3	11	50.0	61	28.9
Vocabulary tests.....	28	33.7	26	24.5	7	31.8	61	28.9
General achievement tests.....	16	19.3	19	17.9	10	45.5	45	21.3
Survey reading tests...	15	18.1	17	16.0	11	50.0	43	20.4
Word-pronunciation tests.....	13	15.7	13	12.3	4	18.2	30	14.2
Miscellaneous.....	5	6.0	1	0.9	1	4.5	7	3.3
No answer.....	33	39.8	43	40.6	2	9.1	78	37.0
Which of the following do you attempt to dis- cover in diagnosing a student's general read- ing difficulties?								
Comprehension.....	49	59.0	59	55.7	19	86.4	127	60.2
Rate of reading.....	40	48.2	53	50.0	18	81.8	111	52.6
Vocabulary difficulties.	40	48.2	50	47.2	18	81.8	108	51.2
Visual defects.....	24	28.9	33	31.1	12	54.5	69	32.7
Concentration difficul- ties.....	20	24.1	34	32.1	12	54.5	66	31.3
Hearing defects.....	19	22.9	23	21.7	12	54.5	54	25.6
Eye-movements.....	12	14.5	26	24.5	11	50.0	49	23.2
Vocalization.....	11	13.3	25	23.6	10	45.5	46	21.8
Head-movements.....	4	4.8	21	19.8	6	27.3	31	14.7
Miscellaneous.....	1	1.2	6	5.7	2	9.1	9	4.3
No answer.....	34	41.0	45	42.5	3	13.6	82	38.9

either the large or the small conventional high schools. Diagnostic reading tests are used by more than twice as many schools as are survey reading tests. Mental tests and vocabulary tests are found to furnish essential data in diagnosing reading disabilities, according to Oregon remedial teachers.

When asked to check the reading tests that have been given during

the last five years, Oregon secondary schools reported a total of twenty-five tests. The following tests are used by the largest number of schools: Dvorak-Van Wagenen Diagnostic Examination of Silent Reading Abilities; New Stanford Reading Test; Iowa Silent Reading Tests, Advanced Test; Iowa Silent Reading Tests; Gates Silent Reading Tests; and Monroe Silent Reading Tests.

There has been a marked increase in the use of reading tests in Oregon secondary schools during the five-year period 1935-40, as is indicated by the following figures: only 26 schools gave reading tests during 1935-36; the number rose to 41 in the following year; in 1937-38, to 58; in 1938-39, to 93; and in 1939-40, to 158. These totals are not exclusive, inasmuch as some of the schools are represented in several years.

Table 4 indicates that, in diagnosing reading disabilities and their causes, Oregon secondary schools appear to be most concerned with discovering the pupil's comprehension, rate of reading, and vocabulary level. These three aspects of reading ability are considered important by more than half of the schools. Other factors that enter into the diagnostic program are visual defects, concentration difficulties, hearing defects, eye-movements, vocalization, and head-movements.

The survey revealed that only a third of the schools require their retarded readers to have an eye examination. The usual practice, according to the reports, is to refer the pupil to the school nurse for a casual eye examination; if a visual defect is evident, the pupil is then sent to a specialist for a more thorough examination.

TECHNIQUES OF REMEDIATION

A variety of techniques and devices are used in Oregon secondary schools in helping pupils overcome reading disabilities. The responses in this section of the questionnaire were classified under the following four headings: (1) techniques used to help slow readers, (2) techniques used for those who read too rapidly and have comprehension difficulties, (3) techniques used in vocabulary development, and (4) techniques to aid pupils in getting the central thought of a paragraph.

Techniques reported by the schools for helping their poor readers are listed in Table 5. It is interesting to note that the seven principal

TABLE 5
TECHNIQUES USED IN REMEDIAL-READING INSTRUCTION IN
211 OREGON SECONDARY SCHOOLS

QUESTION AND ANSWER	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Which of the following techniques do you employ in helping students who read too slowly?								
Training in reading for general idea.....	29	34.9	45	42.5	15	68.2	89	42.2
Silent reading of short units with specific purpose.....	29	34.9	41	38.7	15	68.2	85	40.3
Practice on easy material	19	22.9	37	34.9	15	68.2	71	33.6
Practice in rapid word and phrase recognition	13	15.7	31	29.2	14	63.6	58	27.5
Practice in skimming...	16	19.3	28	26.4	10	45.5	54	25.6
Keeping a record of improvement in speed scores.....	10	12.0	28	26.4	9	40.9	47	22.3
Checking against lip-movement.....	10	12.0	26	24.5	9	40.9	45	21.3
Flash-card drills.....	2	2.4	5	4.7	1	4.5	8	3.8
Miscellaneous.....	1	1.2	5	4.7	1	4.5	7	3.3
No answer.....	40	48.2	49	46.2	3	13.6	92	43.6
Which of the following procedures do you use in helping students who read too rapidly and have comprehension difficulties?								
Emphasize comprehension.....	21	25.3	35	33.0	12	54.5	68	32.2
Teach outlining.....	24	28.9	33	31.1	8	36.4	65	30.8
Stress importance of adjusting reading rate to material read.....	19	22.9	32	30.2	12	54.5	63	29.9
Check comprehension of material read.....	15	18.1	23	21.7	8	36.4	46	21.8
Drill in word recognition techniques.....	12	14.5	19	17.9	5	22.7	36	17.1
Miscellaneous.....	2	2.4	5	4.7	1	4.5	8	3.8
No answer.....	44	53.0	55	51.9	5	22.7	104	49.3

TABLE 5—Continued

QUESTION AND ANSWER	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Which of the following techniques do you use in helping students in word and vocabulary building?								
Emphasize proper use of the dictionary.....	37	44.6	51	48.1	17	77.3	105	49.8
Study difficult words in a paragraph before the paragraph is read....	19	22.9	40	37.7	13	59.1	72	34.1
Gradually increase level of difficulty of reading material.....	21	25.3	35	33.0	13	59.1	69	32.7
Study prefixes and suffixes.....	20	24.1	34	32.1	9	40.9	63	29.9
Study root meanings...	20	24.1	29	27.4	7	31.8	56	26.5
Give simple training in phonics.....	11	13.3	26	24.5	12	54.5	49	23.2
Miscellaneous.....	5	6.0	7	6.6	4	18.2	16	7.6
No answer.....	38	45.8	46	43.4	4	18.2	88	41.7
Which of the following procedures do you use in helping students to get the central thought from a paragraph?								
Picking out topic sentences.....	30	36.1	50	47.2	15	68.2	95	45.0
Summarizing a paragraph in a short sentence.....	30	36.1	41	38.7	15	68.2	86	40.8
Outlining paragraphs...	28	33.7	30	28.3	6	27.3	64	30.3
Teaching the use of punctuation marks...	17	20.5	34	32.1	9	40.9	60	28.4
Stressing importance of varying reading rate with type of material read.....	13	15.7	23	21.7	8	36.4	44	20.9
Stressing comprehension of every sentence....	9	10.8	23	21.7	5	22.7	37	17.5
Miscellaneous.....	2	2.4	4	3.8	2	9.1	8	3.8
No answer.....	37	44.6	48	45.3	4	18.2	89	42.2

techniques for slow readers are those which are most often recommended by leading authorities for the correction of this type of reading difficulty. For the correction of the difficulty that involves reading too rapidly for accurate comprehension, the schools reported the use of five principal techniques. Again, these devices correspond to those which are commonly recommended by reading authorities.

It is generally conceded that an extensive recognition vocabulary is a necessary prerequisite to purposeful and intelligent reading and that an individual's comprehension is limited largely by the size and range of his vocabulary. It is obvious, therefore, that the correction of vocabulary deficiencies is an important step in bringing about the improvement of general reading ability. That Oregon secondary schools have been conscious of this problem is indicated in Table 5. As might be expected, the survey revealed that proper use of a dictionary is the most common technique used to help pupils overcome their vocabulary problems. Other remedial techniques reported for vocabulary improvement are (1) study of difficult words in a selection before reading for thought, (2) gradual increase in level of difficulty of reading material used, (3) study of prefixes and suffixes, (4) study of common root words, and (5) phonetic training.

A number of remedial procedures were reported by Oregon secondary schools for helping pupils improve their skill in finding the central thought of a paragraph. Table 5 lists the six techniques used most commonly for this purpose.

In addition to the techniques listed in Tables 4 and 5, many of the schools described miscellaneous remedial procedures that had been devised by members of their staffs to meet local needs. Some of these, because of their uniqueness, are listed below.

Punch hole in paper and look through hole to count pupil's eye fixations.

Making reading a major part of every class, requiring lots of book reports, urging pupils to select their own books to read, preparing vocabulary lists in various subjects.

Simple contests in which pupils (three or four in a group) must read type-written directions and then carry out the instructions.

Use of mimeographed paragraphs with phrases spaced, so as to induce reading by large units.

Word games in which pupil has to answer with definition.

Building vocabulary by tracing new words on paper or with full-arm motion in the air.

Teacher reads just enough of an interesting story to excite interest of the pupils to read on.

EVALUATION OF REMEDIAL READING

The final phase of the survey attempted to ascertain the reactions of the schools concerning the effectiveness of their remedial-reading programs. The types of evidence, or criteria, used in evaluating the effectiveness of remedial-reading instruction are shown in Table 6.

TABLE 6

TYPES OF EVIDENCE USED IN 211 OREGON SECONDARY SCHOOLS TO MEASURE EFFECTIVENESS OF REMEDIAL-READING INSTRUCTION

TYPE OF EVIDENCE	SCHOOLS WITH FEWER THAN FIVE TEACHERS		SCHOOLS WITH FIVE OR MORE TEACHERS		JUNIOR HIGH SCHOOLS		ALL SCHOOLS	
	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent	Num- ber	Per Cent
Scholastic records.....	31	37.3	34	32.1	9	40.9	74	35.1
Test data.....	19	22.9	31	29.2	14	63.6	64	30.3
Changes in personality and behavior.....	17	20.5	29	27.4	12	54.5	58	27.5
Other types.....	4	4.8	7	6.6	2	9.1	13	6.2
No answer.....	48	57.8	57	53.8	4	18.2	109	51.7

In addition to the three principal criteria (scholastic records, test data, and changes in personality and behavior) listed in the table, several other types of evidence were reported to prove that remedial training had been beneficial. A few of these miscellaneous responses were: "Increased desire to read for pleasure," "Increased confidence in reading," "Improved reading interests and increased level of reading," "Voluntary testimonials from pupils in their themes."

CONCLUSIONS

The data presented in this study are believed to warrant the following conclusions concerning the status of remedial reading in Oregon secondary schools: (1) There is a growing interest in the problem of remedial reading. (2) There has been a rapid growth dur-

ing recent years in the development of remedial-reading instruction. (3) Remedial-reading instruction is regarded in most schools as a responsibility of the English teachers. (4) There is a need for remedial-reading instruction in many schools not now offering such teaching. (5) The schools are in need of trained teachers who understand the methods and theory of reading diagnosis and corrective-reading instruction. (6) The junior high schools, on the whole, have done more about the problem of remedial reading than have either the small or the large high schools. (7) In general, insufficient time is allotted to remedial-reading instruction. (8) Few schools use any special instruments or devices for reading diagnosis. (9) Although many schools have at times given reading tests, some of them have never carried on a remedial-reading program. (10) The diagnosis of remedial-reading cases is given much attention in most schools carrying on a remedial-reading program. (11) The responsibility for remedial-reading instruction is rarely placed on all the teachers in the school. (12) Many more schools would carry on remedial-reading programs if time and facilities were available.

SELECTED REFERENCES ON EDUCATIONAL PSYCHOLOGY

G. T. BUSWELL AND MANDEL SHERMAN
University of Chicago

*

AN EXPLANATION should be made of the fact that some of the books and articles which belong in the field of educational psychology are not included in this summary. A number of studies of learning, mental growth, and individual differences in preschool children are included in the list of references on preschool education. Again, a number of studies in learning in the school subjects or the psychology of the school subjects are included in the lists of selected references on the school subjects. It was thought best to include these studies in the lists mentioned in order that the needs of persons interested in those subjects would be adequately met.

The bibliography covers the period January, 1941, to December, 1941, inclusive, with a few publications from 1940 received too late to be included in the list for that year, and two publications of 1942.

GENERAL AND THEORETICAL DISCUSSIONS¹

355. BURT, CYRIL. *The Factors of the Mind*. New York: Macmillan Co., 1941. Pp. xiv+510.

A basic reference on the applications of factor analysis to problems in psychology. Includes an appendix giving methods for computation.

356. HARTMANN, GEORGE W. *Educational Psychology*. New York: American Book Co., 1941. Pp. xvi+552.

A general introductory textbook. Emphasizes throughout the importance of considering the whole situation before responding.

357. HOLLINGWORTH, LETA S. *Public Addresses*. Lancaster, Pennsylvania: Science Press, 1941. Pp. 148.

A collection of Mrs. Hollingworth's papers prepared during the years 1931-39. Covers topics of gifted children, adolescence, sex differences, and others.

¹ See also Item 448 (Thorndike) in the list of selected references appearing in the September, 1940, number of the *School Review*.

358. HURD, ARCHER WILLIS. *Study Guide and Textbook, Educational Psychology*. Minneapolis, Minnesota: Burgess Publishing Co., 1941. Pp. 88.
The author applies the principles of educational psychology to the teaching and learning of this subject. A guidebook with some textual background.
359. NELSON, M. J. *Handbook of Educational Psychology and Measurement*. New York: Dryden Press, 1941. Pp. vi+174.
Includes a summary of essentials in educational psychology and gives a dictionary of terms and an annotated bibliography.
360. STARCH, DANIEL; STANTON, HAZEL M.; and KOERTH, WILHELMINE. *Psychology in Education*. New York: D. Appleton-Century Co., Inc., 1941. Pp. x+722.
A general introductory textbook. Emphasizes guidance and learning. Part II of the book is given to psychology of school subjects.
361. SWENSON, ESTHER J. *Retroactive Inhibition*. University of Minnesota Studies in Education, College of Education, No. 1. Minneapolis, Minnesota: University of Minnesota Press, 1941. Pp. iv+60.
An excellent general reference giving a review of the literature on this topic.

LEARNING¹

362. CLARK, KENNETH B. *Some Factors Influencing the Remembering of Prose Material*. Archives of Psychology, No. 253. New York: Archives of Psychology (R. S. Woodworth, editor, % Columbia University), 1940. Pp. 74.
An experimental study containing some important implications for educational methods.
363. MILLER, NEAL E., and DOLLARD, JOHN. *Social Learning and Imitation*. Published for the Institute of Human Relations. New Haven, Connecticut: Yale University Press, 1941. Pp. xiv+342.
A contribution to the social aspects of learning. Emphasizes the general learning pattern of drives, cues, responses, and rewards.
364. ROBINSON, F. P. *Diagnostic and Remedial Techniques for Effective Study*. New York: Harper & Bros., 1941. Pp. x+318.
A study manual for college students. Primarily for self-help rather than for use as a textbook.
365. TUTTLE, HAROLD SAXE. *How Motives Are Educated*. New York: Brentano's Book Store, 1941 (experimental edition). Pp. xii+202.
A general treatment of motives and their relation to learning.

¹ See also Item 517 (Thorndike) in the list of selected references appearing in the October, 1941, number of the *Elementary School Journal*.

INDIVIDUAL DIFFERENCES¹

366. HAYES, SAMUEL PERKINS. *Contributions to a Psychology of Blindness*. New York: American Foundation for the Blind, 1941. Pp. viii+296.
A general textbook and reference book. Gives special attention to mental and educational measurements of blind persons.
367. HORN, A. M. *Uneven Distribution of the Effects of Specific Factors*. Southern California Education Monographs, No. 12. Los Angeles, California: University of Southern California Press, 1941. Pp. x+108.
A study of regression and the achievement quotient, achievement differences, constancy of the intelligence quotient, and other problems.
368. SCOTT, WINIFRED STARBUCK. *Reaction Time of Young Intellectual Deviates*. Archives of Psychology, No. 256. New York: Archives of Psychology (R. S. Woodworth, editor, % Columbia University), 1940. Pp. 64.
A comparison of the performance of children of high and low intelligence quotients.
369. SPADINO, E. J. *Writing and Laterality Characteristics of Stuttering Children*. Teachers College Contributions to Education, No. 837. New York: Teachers College, Columbia University, 1941. Pp. viii+82.
Presents new material on this problem gathered from a comparative study of seventy stutterers and an equal number of matched non-stutterers.
370. SUMPTION, MERLE R. *Three Hundred Gifted Children*. Yonkers-on-Hudson, New York: World Book Co., 1941. Pp. xviii+236.
A follow-up study based on data from classes for superior children in Cleveland, Ohio.
371. THURSTONE, THELMA G. "Primary Mental Abilities of Children," *Educational and Psychological Measurement*, I (April, 1941), 105-16.
A study based on 1,154 pupils from Grade VIII. Employed a battery of 60 tests.

CHILD DEVELOPMENT²

372. CANTRIL, HADLEY. *The Psychology of Social Movements*. New York: John Wiley & Sons, Inc., 1941. Pp. xvi+274.
Makes an evaluation of the basis of various types of social behavior.

¹ See also Items 465 (Myers) and 481 (Buros) in the list of selected references appearing in the September, 1941, number of the *School Review*; Item 212 (*Meeting Special Needs of the Individual Child*) in the April, 1941, number of the *Elementary School Journal*; Item 267 (Lewis) in the May, 1941, number, and Item 110 (Gesell and Thompson) in the March, 1942, number of the same journal.

² See also Item 101 (Campbell and Weech) in the list of selected references appearing in the March, 1942, number of the *Elementary School Journal*.

373. CHILD, IRVIN L., and SHELDON, WILLIAM H. "The Correlation between Components of Physique and Scores on Certain Psychological Tests," *Character and Personality*, X (September, 1941), 23-34.
Presents a further report of the studies of the relation between physique and a number of psychological processes and personality. Employs extensive statistical methods in the attempt to discover the relations.
374. MELTZER, H. "Children's Thinking about Nations and Races," *Pedagogical Seminary and Journal of Genetic Psychology*, LVIII (March, 1941), 181-99.
Reports a study of 1,320 children between nine and sixteen years of age in regard to their attitudes toward nations and races. Evaluates the development of attitudes and the methods of measuring them.
375. ROSANOFF, A. J., HANDY, L. M., and PLESSET, I. R. *The Etiology of Child Behavior Difficulties, Juvenile Delinquency and Adult Criminality, with Special Reference to Their Occurrence in Twins*. Psychiatric Monographs, Vol. I. Sacramento, California: Published for the Department of Institutions by the California State Printing Office, 1941. Pp. 188.
The study was based on 409 pairs of twins who were selected because of behavior difficulties or delinquency in one or both of the twins. The various factors which seemed to be the cause of the behavior difficulty are outlined.
376. SHERBON, FLORENCE BROWN. *The Child: His Origin, Development, and Care*. New York: McGraw-Hill Book Co., Inc., 1941 (second edition). Pp. xx+756.
A textbook on child development with special emphasis on the biological aspects.
377. WOODWORTH, R. S. *Heredity and Environment*. A Report Prepared for the Committee on Social Adjustment. Bulletin 47. New York: Social Science Research Council (230 Park Avenue), 1941. Pp. x+96.
Reviews the experimental data on the effects of training and environment on intelligence and evaluates principally the data on twins and foster children.

MENTAL GROWTH

378. BROWN, ANDREW W., and COTTON, CAROL B. "A Study of the Intelligence of Italian and Polish School Children from Deteriorated and Nondeteriorated Areas of Chicago as Measured by the Chicago Nonverbal Examination," *Child Development*, XII (March, 1941), 21-30.
Compares the intelligence of children of Polish and of Italian parentage by means of nonverbal tests and evaluates the factor of socio-economic level.
379. GESELL, ARNOLD. "The Genesis of Behavior Form in Fetus and Infant: The Growth of the Mind from the Standpoint of Developmental Morphology," *Proceedings of the American Philosophical Society*, LXXXIV, 471-88. Philadelphia: American Philosophical Society, 1941.

An evaluation of the development of behavior in infancy and a statement regarding the concept of maturation from the standpoint of intellectual development.

380. GESELL, ARNOLD, and AMATRUDA, CATHERINE S. *Developmental Diagnosis*. New York: Harper & Bros., 1941. Pp. xiv+448.

An outline of the patterns of infant growth and development and a discussion of the important signs of developmental disturbances.

381. LONG, LOUIS, and WELCH, LIVINGSTON. "Reasoning Ability in Young Children," *Journal of Psychology*, XII (1941), 21-44.

Reports an investigation of the reasoning ability of fifteen children between the ages of six and eight. A total of thirteen problems were given the children, and the methods of solution were evaluated.

PERSONALITY¹

382. ALLFORT, F. H., and FREDERIKSEN, N. O. "Personality as a Pattern of Teleonomic Trends," *Journal of Social Psychology*, XIII (February, 1941), 141-82.

An investigation of teleonomic trends in personality based on data obtained from eighteen persons.

383. BATEMAN, RICHARD M., and REMMERS, H. H. "A Study of the Shifting Attitude of High School Students When Subjected to Favorable and Unfavorable Propaganda," *Journal of Social Psychology*, XIII (May, 1941), 395-406.

A report of an experiment on the shifting of attitudes of high-school pupils.

384. BURGESS, ERNEST W.; WARNER, W. LLOYD; ALEXANDER, FRANZ, M.D.; and MEAD, MARGARET. *Environment and Education*. A Symposium Held in Connection with the Fiftieth Anniversary Celebration of the University of Chicago. Human Development Series, Vol. I. Supplementary Educational Monographs, No. 54. Chicago: Department of Education, University of Chicago, 1942. Pp. viii+66.

An analysis of the effect of environment on the development of the individual. The various factors involved in the educative process are especially emphasized.

385. GLASER, EDWARD M., and MALLER, JULIUS B. "The Measurement of Interest Values," *Character and Personality*, IX (September, 1940), 67-81.

An experimental study of interest values made on four groups of college students and adults. Includes an item analysis.

¹ See also Item 475 (Johnson) in the list of selected references appearing in the September, 1941, number of the *School Review*, and Item 96 (Barker, Dembo, and Lewin) in the March, 1942, number of the *Elementary School Journal*.

386. HOWARD, EDGERTON MCC. "An Analysis of Adolescent Adjustment Problems," *Mental Hygiene*, XXV (July, 1941), 363-91.
An evaluation of the factors involved in creating adolescent personality difficulties. The data were gathered from a study of seventy-nine college students with adolescent difficulties.
387. MOORE, THOMAS V. "The Prepsychotic Personality and the Concept of Mental Disorder," *Character and Personality*, IX (March, 1941), 169-87.
Reports a study of the relation between the psychosis of a patient and his prepsychotic personality. A definite relation is shown between given emotional traits and the psychotic condition.
388. SHERMAN, MANDEL, and JOST, HUDSON. "Frustration Reactions of Normal and Neurotic Persons," *Journal of Psychology*, XIII (1942), 3-19.
An experimental study of the reactions of normal and neurotic children to frustrating situations. An analysis of personality based on the psychological and physiological responses.
389. SYMONDS, PERCIVAL M., and SAMUEL, ELISABETH A. "Projective Methods in the Study of Personality," *Review of Educational Research*, XI (February, 1941), 80-93.
A review of the literature on projective techniques in the study of personality.
390. TRAXLER, ARTHUR E. "Current Construction and Evaluation of Personality and Character Tests," *Review of Educational Research*, XI (February, 1941), 57-79.
A review of the literature from 1938-40 under a variety of categories.
391. WARNER, W. LLOYD; JUNKER, BUFORD H.; and ADAMS, WALTER A. *Color and Human Nature*. Prepared for the American Youth Commission. Washington: American Council on Education, 1941. Pp. xvi+302.
Reports a study of the factors basic to the development of personality in the Negro in a northern city. The study was made by means of interviews and case histories.

Educational Writings

★

REVIEWS AND BOOK NOTES

EDUCATION CLARIFIED FOR THE LAY READER.—A recent volume¹ edited by Professor Newton Edwards, of the University of Chicago, is a compilation of a series of lectures given under the auspices of the Charles R. Walgreen Foundation for the Study of American Institutions "to assist students toward an understanding of contemporary life in the United States" (p. vii). The work contains eight lectures presented in a series by members of the faculty of the Department of Education of the University of Chicago. As stated by Edwards in the Preface, those participating in the work "planned it together and profited by mutual counsel and advice" (p. ix).

The first three essays treat of the evolution, the purposes, and the functions of education in a democracy. The fourth discusses "Education and the Process of Individual Adjustment." The fifth and the sixth essays are devoted to the clarification of the place that the curriculum, teaching, and administration take in fulfilling these educational ideals, while the last two discussions consider, respectively, "The Social Significance of New Educational Services" and "The University's Responsibility for Education in a Democracy." As would be expected, readers who know the professors whose writings appear in the volume will recognize in these pages the individuality and the differences in philosophy that prevail among them. Although a degree of unity is achieved, the differences latent in the discussions give a life to the book that evidences a unique character of education in the United States—educators agree to differ.

For the professional worker in touch with educational literature, this attractive book introduces little that is new. Nevertheless, teachers and others associated with school work may well afford to give the essays an evening's time. The dissimilarities in social and economic philosophies, as well as the differences in educational theory and practice, that emanate from these presentations may cause the professional reader to pause and ponder.

One welcomes a book of this kind; for many years leaders in education have sensed that students who are not in education and many citizens in all walks of life possess only a limited knowledge and understanding of the part which education must play in a democracy. It is of vital importance that competent authority appraise for these groups the functions of education in a democratic society.

¹ *Education in a Democracy*. Compiled and edited by Newton Edwards. Charles R. Walgreen Foundation Lectures. Chicago: University of Chicago Press, 1941. Pp. xii+160. \$1.25.

The reviewer read the volume a second time with the thought of interpreting the essays from the point of view of potential interest to the lay reader or to the student not particularly interested in education. He is inclined to believe that too much of the discussion is couched in the language of the professional educator and that a background of knowledge is assumed which probably does not exist in groups outside the educational profession.

Obviously each author had time limits for his lecture and hence was forced to choose his materials with much care. On the whole, this selection was exceedingly well done. Nursery schools, transportation of pupils, health service, social service, camp experience, the National Youth Administration, the Civilian Conservation Corps, hot lunches, vocational education, and adult education are discussed in the chapter on new educational services. When are educational services "new"? Does operation for five years, a decade, two decades, a quarter of a century mean that a service may be classed as "new"? Naturally, new practices have developed in these several areas, as in all educational work; yet the uninitiated might be dreadfully confused by the treatment given this list of services. For example, the literature sent out from Washington insists that the activities rendered by the National Youth Administration, through its independently operated units, are not education at all but productive work experience. The work programs of the N.Y.A. operated and organized in colleges and secondary schools were not created as educational work experience. For generations students have worked in secondary schools and colleges to earn money. These activities developed under the N.Y.A. are not new; the source of the money is the only new feature.

To the professional student of education the following sentence is of much interest: "These four types of social services in the schools—transportation, medical and dental inspection, free hot lunches, and recreational facilities—have been described at some length to indicate the extent to which the school is being called upon today to render services that are not strictly instructional" (p. 122). Again the question of relative newness may be raised. One will admit that the rapid and extensive development of these services is a unique characteristic. Applying the word "inspection" to medical and dental services has all the earmarks of a concept of health service prevailing a generation ago. The modern school has endeavored to make recreational facilities and health clinics as significantly educational as are the classroom activities in health.

Under "Expanding Services in Higher Education" no statement is made indicating what these services are, but the problems of selection and growth of higher education during the past half-century are discussed.

It is the reviewer's hope that professional educators will give more of their time to preparation of literature on education in the United States which will interest and challenge the general public, as well as students in all walks of life. May this volume be a forerunner of such efforts.

FRED ENGELHARDT

University of New Hampshire

EDUCATION FOR DEMOCRATIC LIVING.—The emphasis today in American education is on democracy and the role of the school in training individuals to live in a democratic society. This has been especially true since we have come to realize that in the present war the very fundamentals of our American way of life are at stake.

There is a definite need for in-service training of teachers in the procedures and practices required by a curriculum which will prepare young people for living in our democratic society. If this in-service training is to be successful, there is also a need for more descriptive literature on the techniques involved in planning such a curriculum. Wrightstone and Campbell¹ have endeavored recently to fulfil this latter need. Their book is concerned chiefly with the social-studies field, but its application can be extended to all fields in which the end of learning is to develop social competence on the part of every individual.

The book is divided into three parts. Part I deals with the purposes of social education in a democracy and is a popular presentation of the more scholarly treatment found in Newlon's *Education for Democracy in Our Time* (McGraw-Hill Book Co., Inc., 1939) or Hopkins' *Interaction: The Democratic Process* (D. C. Heath & Co., 1941). After reviewing the fundamentals of the American way of life, the authors present an excellent summary of research conclusions on the nature of social learning and emphasize that the curriculum should be organized around "whole situations" which are to be experienced by a "whole individual." In their discussion of curriculum organization and method in the social studies, they indicate that the integrative or core curriculum is best adapted to education for democratic living.

Part II deals with four areas of learning which cover the major topics in the social studies: (1) co-operating in social and civic action, (2) understanding economic processes, (3) adjusting to and improving our physical environment, and (4) personal development and guidance. A chapter concerned with each of these areas of learning offers help in planning the scope and the sequence of experiences for levels from the kindergarten-primary, through the intermediate, junior high school, and senior high school, to the adult level of education. Typical learning units, such as "The Home and the Family," "Consumption," and "Health and Safety," are used to illustrate the kinds of experiences that can be provided at the different levels of maturity.

Part III sketches the important though difficult problem of evaluating the outcomes of social education. The techniques of evaluation are discussed, and guiding principles for evaluating the growth and development of democratic personalities and for applying the results of the evaluation program are described. This section concludes with an excellent bibliography of published tests in the social studies, each of which is briefly described.

The treatment in this volume is general, and it will be useful to the untrained

¹ J. Wayne Wrightstone and Doak S. Campbell, *Social Studies and the American Way of Life*. Evanston, Illinois: Row, Peterson & Co., 1942. Pp. xii+292. \$2.00.

teacher rather than the specialist in social education. The examples of social experience which are used well illustrate the kinds of activities appropriate at each level of maturity. The use of subtitles throughout the chapters makes it easy to locate material. Each section and chapter is prefaced with a general statement of what is to follow, and each chapter concludes with a short summary and a selected bibliography. However, few references are given in documented form. The book is not lengthy and its treatment is not specialized, but it follows the purpose indicated in the Preface, "to interpret learning and teaching of the social studies so that pupil growth through social experiences will emphasize the fundamental aims and ideals of the American way of life" (p. v).

DON F. THOMANN

Knoxville High School
Knoxville, Illinois

PERSONNEL WORK IN HIGH SCHOOL.—Many books have appeared in the past few years on guidance, counseling, and personnel work in the secondary school and college. All are dominated by one point of view, namely, the optimum personal development of the individual, though they may use different terminologies and espouse different empirical and scientific techniques with varying degrees of vigor. Through all these books runs this notion of optimum individual development, or development to "the best or most favorable degree, quantity, number, etc." (the definition of "optimum" given in *Webster's New International Dictionary*). This definition implies development within limits—limits presumably set by the cultural forces of the time and the place—but many writers seem to imply maximum expansion of the individual's capacities without giving more than passing attention to the obvious restrictions imposed by the social structure. To see these limitations in an extreme form, one needs only to recall the excellent studies of Negro youth made by the American Youth Commission.

This problem is brought to mind by a new book¹ which raises this ubiquitous question of self and society in its stress on the individual as "the focal point" and in the point of view expressed in this sentence: "The abilities, interests, and needs of each student are the determining factors in the selection of his curriculum and of the methodology and administrative techniques to be used" (p. 21). The concept of needs implies social, as well as physical and psychological, necessities, but the general impression left by this book and by many other books on personnel problems is that of a predominant concern with the rights of the individual and a rather casual concern with the nature of the social structure within which these rights are developed and exercised.

These general observations do not detract from the merit of this book, which is a comprehensive treatment of personnel problems in the high school. The

¹ Charles E. Germane and Edith G. Germane, *Personnel Work in High School: A Program for the Guidance of Youth—Educational, Social, and Vocational*. New York: Silver Burdett Co., 1941. Pp. xvi+600. \$4.00.

plan and purpose of the book can be expressed best in two quotations from the Preface:

Consequently, *Personnel Work in High School* is much more than a presentation of the objectives in personnel work and a discussion of typical personnel techniques. It is an attempt to present in considerable detail the materials, methods, measurements, and outcomes of a five-year investigation, the purpose of which was to establish the basis for a personnel program in high school that could be initiated and conducted effectively, even under highly unfavorable conditions. . . .

The authors are of the opinion that the teacher is in a key position to render personnel service to students [p. vii].

Supplementary to this major concept, the authors stress, as techniques, the case-conference method and the use of evaluation instruments, in the form of achievement tests, interest inventories, vocational inventories, and adjustment questionnaires. They also advocate the employment of a full-time or part-time counselor, depending on the size of the school involved, as a leader and coordinator of the total personnel program. These central ideas are expanded into a concrete scheme of operation through the presentation of ten areas of adolescent experience and fifteen strategies for discovering and analyzing a pupil's potentialities. These areas and strategies are then used as a basis for curriculum-planning and for a guiding methodology in individual and group counseling. The areas of adolescent experience were determined by the consensus of the responses to a questionnaire on adolescent problems given to fourteen thousand pupils. These areas are: work and study; vocational preferences; world-relationships; family relationships; mental health; physical health; human relationships; philosophy of life; leisure and hobby; and aesthetics, culture, and charm. The strategies are: the diagnostic reading-study test, the diary, the study-habit inventory, the quintile classification, the case study, the interview, the adjustment questionnaire, the vocational-interest inventory, the cumulative-record card, the teacher-pupil conference, the pupil's autobiography, daily class work, systematic observation and follow-up record, and the parent-teacher co-operative sheet.

The authors describe how curriculum units can be prepared on the basis of the findings derived from the use of the strategies in studying individual abilities, personality manifestations, and vocational preferences. They also show how individual counseling depends on these same analytical techniques, and they include some excellent illustrative case studies of typical school-adjustment problems. In two final chapters they discuss group guidance, in the form of special courses and units, such as occupational-information courses, and the use of a student "expressionnaire" or attitude questionnaire on ethical and moral problems. In the final section of the book, "Useful Reference Material," the authors publish completely their tests, inventories, and questionnaires, which they offer freely for general use.

Many readers will be critical because of the paucity of the evidence concerning the nature of the five-year investigation with fourteen thousand children.

The authors refer frequently to this study, but they give no concrete evidence of its exact nature nor any references to other publications or records where detailed description might be found. This same criticism applies also to the norms presented for the tests and questionnaires. In this connection it must be said that throughout the book great confidence is expressed in measuring instruments, even in the field of personality measurement. For example, the authors state that, if a boy ranks below the median made on certain achievement tests by *successful* engineers when they were Seniors, "then teacher and student alike can see that either he must be able to and also do better work or turn his attention to a vocation which does not demand a high degree of achievement in these subjects" (p. 305). References given at the end of each chapter and in the final bibliography are selective and generally representative, although some readers will miss Buros' *Mental Measurements Yearbook*, especially in a volume which advocates extensive use of adjustment and vocational inventories and questionnaires.

Personnel Work in High School can be recommended for its empirical method and its emphasis on the teacher as a vital guidance functionary. It should stimulate administrators and teachers in their efforts to individualize and personalize everyday school life.

J. M. O'ROURKE

*Lane Technical High School
Chicago, Illinois*

SELF-HELP EMPLOYMENT FOR COLLEGE STUDENTS.—The problems of self-supporting youth in colleges and universities have long been recognized as a serious responsibility of the institutions enrolling them, and laudable efforts are commonly made to direct the employment activities of students with a view to averting the crises frequently confronting such students in their college careers. In the past quarter-century especially, many investigations have been made by college authorities to determine the conditions and effects of student employment. An interesting review¹ of the findings of such inquiries is now available in a publication of the American Council on Public Affairs.

In reporting and interpreting the findings of numerous studies of student employment, the author points out that the ill effects of self-help employment are usually to be attributed to the fact that the student has undertaken more than he can do. It is just these examples of excessive employment activity, however, that raise the question of the propriety of the self-help programs so generally sponsored by higher institutions, since the students concerned are those in greatest need of financial help. "If employment is to operate effectively as a gateway to scholastic opportunity," says the author of this report, "these are precisely the cases the method must fit" (p. 2).

¹ Samuel Clayton Newman, *Employment Problems of College Students*. Washington: American Council on Public Affairs, 1942. Pp. xvi+158. \$2.50 (paper), \$3.00 (cloth).

On the much-debated question of the educational value of self-help employment, the author does not agree with the contention that students should be directed to avoid employment which is not related to their courses of instruction. It is argued that jobs unrelated to classroom work frequently yield developmental values in social intelligence and breadth of interest which should not be discounted. However, the responsible officers of the higher institutions might well give more attention than they ordinarily do to the qualitative selection of jobs.

In addition to a discriminating interpretation of the findings of research with respect to the conditions and the effects of student employment in a large number of higher institutions, this volume includes references to the procedures and the results of the student work program of the National Youth Administration, scholarships and loans, and co-operative projects of various kinds. As an effective summary of the scientific studies of the problem, the report will serve as a convenient reference aid to guidance officers in colleges and universities.

NELSON B. HENRY

University of Chicago

ESSENTIALS OF FRENCH FOR JUNIOR HIGH SCHOOL PUPILS.—There has never been a lack of books purporting to lead the young beginner in his first steps in French, but all too frequently these books have been an unnatural combination of babyish reading matter and paradigms of the imperfect subjunctive—a combination with little use and less appeal for children. With only this type of textbook available, every teacher of elementary French is confronted by the problem: "How can I make French a pleasurable and profitable experience for my young pupils?"

Here at last is a book¹ that solves the teacher's problem, for every lesson in it is planned with the junior high school pupil in mind and is written by authors who have spent years in teaching children and learning from them. Miss Spink and Miss Millis know French in all its intricacies; they know psychology and pedagogy; but, above all, they know children. They have had the courage to set aside traditional textbook terms, they have ignored the dictatorship of "word lists," they have sought only to build a book that will teach the basic facts of French to children in a way which they will relish.

The book is organized into forty lessons, interspersed with reviews and cultural essays and followed by a list of supplementary readings, a helpful appendix, and a French-English vocabulary. The typical lesson consists of a short chapter in a simple serial story, a questionnaire, a bit of grammar, an exercise or two, and perhaps a song. All this sounds completely conventional. It is the treatment that is original, for this textbook is a pupil's book all the way through.

¹ Josette Eugénie Spink and Violet Millis, *French Storybook Grammar: A Simplified Grammar for Young Students*. Boston: Ginn & Co., 1942. Pp. xvi+384. \$1.76.

Nowhere does the teacher stand between the pupil and his friends, the authors. The instructions for the teacher come through the pupil: "Your teacher is going to speak French to you so that you can hear how it sounds" (p. 14). Pronunciation, too, is taught with the pupil's reaction in mind. Phonetic symbols are used under the name of "sound pictures," but the instructions are refreshingly simple: "Buzz when you see *s* between vowels . . ." (p. 191). Nowhere is the pupil alienated by long vocabularies, stiff rules, erudite essays, and exercises that have no meaning to the juvenile mind. The vocabularies are *coffres à trésor* carefully filled and then knowingly rifled to adorn the child's original stories. Rules are couched in everyday terms. Exercises become "Something to do" in an unending variety that does credit to the authors' ingenuity. The cultural essays are never dragged in simply to edify the pupil; they are an integral part of the book and are written in a style that appeals to children and yet loses nothing through its simplicity. Reviews are not monotonous repetitions but, rather, entertaining games that put into practice what has been learned.

Entertainment, however, is not the aim of the book; it is a means to an end. Painlessly yet thoroughly, the pupil learns the essentials of simple French. He comes to know an impressive total of the facts of functional grammar—facts that build a solid foundation for the superstructure of advanced French.

Deficiencies and inaccuracies are singularly lacking. Perhaps some teachers will regret the omission of an English-French vocabulary since there are sentences to be translated into French; others will be glad that the children will be led by that very lack to study the French text more closely. Some keen phoneticians may doubt the advisability of saying that the French *a* is the equivalent of the English "*a* in *at*" (p. 29). While a British child would be helped by such a description, a midwestern American might be led astray. Again the phoneticians might question the advice to "push on the sound" of *eu* not phonetically final (p. 277). Is it not rather the phonetically final *eu* that should be "pushed"? These matters may easily be overlooked, but one omission should certainly be corrected in the inevitable second edition: credit should be given to the artist whose charmingly conceived sketches add immeasurably to the French atmosphere of the book.

French teachers are deeply concerned at present about the drop in enrolment in their classes. If they will study the method of *French Storybook Grammar*, if they will produce for senior high schools textbooks which are equally pupil-centered, they will go far toward making French the popular subject it once was.

Loring School
Chicago, Illinois

CECILIA RUSSELL

A UNIT-TYPE TEXTBOOK IN AMERICAN LITERATURE.—Teachers of English in secondary schools have been experimenting for some years with organizations of the course in American literature which gave promise of making the study more

interesting and more meaningful to pupils of high-school age. The literary histories that served as textbooks for high-school classes for so many years and the more recent books in which literary selections were studied as types have been used effectively by only the most resourceful teachers. One of the methods adopted to motivate the study of American literature in a more significant way is presented in a new book¹ in which the selections are grouped according to the subject matter of the writings.

The titles of the five major divisions of this voluminous publication reveal the essential aim underlying the plan adopted by the authors to make the study of American literature meaningful. These divisions are concerned with the foundations of life in America, American ideals, international spirit of America, the estimates of America held by other nations, and the development of American literature. Illustrative of the literature bearing on each of these topics, the authors have presented a wide selection of materials and writers. For example, the study of the foundations of life in America is based on ninety-nine selections from the works of eighty-one writers. For each division the authors of the textbook have provided a discriminating introduction. For each selection there is either a short biographical sketch or an appropriate foreword, and the selection is followed by questions to guide the pupils' interpretation. At the end of each major division is given a descriptive bibliography as a guide to further reading on that topic. All types of literature are adequately represented both in the selections included in the book and in the supplementary bibliographies. Contemporary writings appear in each division. Altogether, about a third of the material in the book represents present-day thought.

The last division, the development of American literature, provides an effective review of trends in American writings in chronological sequence. Teachers who desire to emphasize the periods of American history to which particular writings or writers belong will find additional help in a classified list of more than two hundred selections appearing in the Appendix. Those who may desire to emphasize the contributions of various types of literature are provided with a list in which the selections are grouped as essays, short stories, novels, poems, etc.

Teachers of American literature will recognize in this publication a definite contribution to the current movement toward the organization of subjects of instruction around core ideas. It will probably be most acceptable to those teachers who wish to have their pupils study the problems of American life in the light of the ideas advanced by writers of varying points of view.

E. S. LIDE

*Sullivan High School
Chicago, Illinois*

¹ Pearle Ethel Knight and Harry G. Paul, *In America: A Literary View of Our Country*. New York: Mentzer, Bush & Co., 1942. Pp. xvi+1198. \$1.86.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY
AND PRACTICE

- BENJAMIN, HAROLD. *Emergent Conceptions of the School Administrator's Task*. Cubberley Lecture, Stanford School of Education, November 12, 1938. Stanford University, California: Stanford University Press, 1942. Pp. vi+26. \$1.00.
- BURGESS, ERNEST W.; WARNER, W. LLOYD; ALEXANDER, FRANZ, M.D.; and MEAD, MARGARET. *Environment and Education*. A Symposium Held in Connection with the Fiftieth Anniversary Celebration of the University of Chicago. Human Development Series, Vol. I. Supplementary Educational Monographs, No. 54. Chicago: Department of Education, University of Chicago, 1942. Pp. viii+66. \$1.00.
- CARR, WILLIAM G. *Educational Leadership in This Emergency*. Cubberley Lecture, Stanford School of Education, July 20, 1941. Stanford University, California: Stanford University Press, 1942. Pp. vi+32. \$1.00.
- DAVIS, ALLISON; GARDNER, BURLEIGH B.; and GARDNER, MARY R. *Deep South: A Social Anthropological Study of Caste and Class*. Directed by W. Lloyd Warner. Chicago: University of Chicago Press, 1941. Pp. xvi+558. \$4.50.
- DE YOUNG, CHRIS A. *Introduction to American Public Education*. New York: McGraw-Hill Book Co., Inc., 1942. Pp. xvi+728. \$3.25.
- DOANE, DONALD C. *The Needs of Youth: An Evaluation for Curriculum Purposes*. Teachers College Contributions to Education, No. 848. New York: Teachers College, Columbia University, 1942. Pp. viii+150. \$2.10.
- GATES, ARTHUR I., JERSILD, ARTHUR T., MCCONNELL, T. R., and CHALLMAN, ROBERT C. *Educational Psychology: A Revision of "Psychology for Students of Education."* New York: Macmillan Co., 1942. Pp. xviii+806. \$3.00.
- GEYER, DENTON L., with supplementary chapters by ALBERT J. HUGGETT and DONALD K. MARSHALL. *Current Issues in Education*. Chicago: Werkman's Book House (350 West Sixty-ninth Street), 1942. Pp. 92.
- GILES, H. H., MCCUTCHEN, S. P., and ZECHIEL, A. N. *Exploring the Curriculum: The Work of the Thirty Schools from the Viewpoint of Curriculum Consultants*. Adventure in American Education, Vol. II. New York: Harper & Bros., 1942. Pp. xxiv+362. \$2.50.
- JACKSON, SIDNEY L. *America's Struggle for Free Schools: Social Tension and Education in New England and New York, 1827-42*. Washington: American Council on Public Affairs, 1941. Pp. viii+276. \$3.50 (cloth), \$3.00 (paper).
- NEWMAN, SAMUEL CLAYTON. *Employment Problems of College Students*. Washington: American Council on Public Affairs, 1942. Pp. xvi+158. \$3.00 (cloth), \$2.50 (paper).

- Philosophies of Education*. Forty-first Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1942. Pp. xii+322. \$2.25 (paper), \$3.00 (cloth).
- The Psychology of Learning*. Forty-first Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1942. Pp. xiv+502. \$2.50 (paper), \$3.25 (cloth).
- REAVIS, WILLIAM C., and JUDD, CHARLES H. *The Teacher and Educational Administration*. Boston: Houghton Mifflin Co., 1942. Pp. xviii+604. \$3.00.
- REEVES, FLOYD W. *Education for Today and Tomorrow*. The Inglis Lecture, 1942. Cambridge, Massachusetts: Harvard University Press, 1942. Pp. 66. \$1.00.
- SAWYER, RUTH. *The Way of the Storyteller*. New York: Viking Press, 1942. Pp. 318. \$2.50.
- SWINEFORD, FRANCES, and HOLZINGER, KARL J. *A Study in Factor Analysis: The Reliability of Bi-factors and Their Relation to Other Measures*. Supplementary Educational Monographs, No. 53. Chicago: Department of Education, University of Chicago, 1942. Pp. xii+88. \$1.00.
- WILLIAMS, E. I. F. *The Actual and Potential Use of Laboratory Schools in State Normal Schools and Teachers Colleges*. Teachers College Contributions to Education, No. 846. New York: Teachers College, Columbia University, 1942. Pp. x+260. \$2.65.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

- ANTOVILLE, HENRIETTA D., and TRUBE, CATHERINE M. *Practical Mathematics: Book I*, pp. viii+338; *Book II*, pp. viii+342; *Book IV*, pp. viii+336. New York: Noble & Noble, 1942. \$1.04 (each).
- ARPS, LOUISA WARD. *Speaking of Books*. Denver, Colorado: Denver Public Schools, 1941. Pp. vi+148. \$1.25.
- BACON, FRANCIS L. *The War and America*. New York: Macmillan Co., 1942. Pp. 126. \$0.60.
- A Basic Book Collection for High Schools*. Compiled by a Joint Committee of the American Library Association, National Education Association, and National Council of Teachers of English, Jessie Boyd, chairman. Chicago: American Library Association, 1942. Pp. 194. \$2.00.
- CRAIG, EDNA, and STONE, GEORGE K. *Experiences in Life Science*. New York: Macmillan Co., 1942. Pp. 186. \$0.88.
- FRASER, W. H., SQUAIR, F., and PARKER, CLIFFORD S. *Revised Elementary French Grammar*. Boston: D. C. Heath & Co., 1942. Pp. xviii+410. \$1.80.
- GLOSS, G. M. *Physical Ability Test (Males)*. New York: New York University Bookstore (18 Washington Place).
- HARPER, FOWLER. *Give Me Liberty*. Chicago: Wheeler Publishing Co., 1942. Pp. 156. \$1.24.

- The Heath-Chicago German Series: Book IV—Alternate, *Eine Nacht im Jägerhaus* (Friedrich Hebbel) and *Die Geschichte von Kalif Storch* (Wilhelm Hauff), retold and edited by Peter Hagboldt, pp. vi+56; Book V—Alternate, *Alle fünf!* retold and edited after the German of Helene Stökl by Peter Hagboldt, pp. vi+56. Boston: D. C. Heath & Co., 1942. \$0.32 (each).
- KANY, CHARLES E., and DONDO, MATHURIN. *Advanced French Conversation*. Boston: D. C. Heath & Co., 1942. Pp. vi+74. \$0.48.
- LEÓN, RICARDO. *Las niñas de mis ojos*. Edited with questions, notes, and vocabulary by Alberto Vázquez. Boston: D. C. Heath & Co., 1942. Pp. x+228. \$1.28.
- MITCHELL, HOWARD. *Spanish Verb and Idiom Achievement Tests*. Heath's Modern Language Series. Boston: D. C. Heath & Co., 1942. Pp. 110. \$1.00.
- New World Neighbors: *Children of Mexico* by Dorothy Childs Hogner; *Ootah and His Puppy* by Marie Ahnighito Peary; *Sky High in Bolivia* by Ruth Cady Adams; *Rico, the Young Rancher* by Patricia Crew Fleming; *Up Canada Way* by Helen Dickson; *Riches of Central America* by V. Wolfgang von Hagen; *Around the Year in Iceland* by Elizabeth Yates; *Six Great Men of Brazil* by Vera Kelsey. Boston: D. C. Heath & Co., 1942. Pp. 64 (each). \$0.40 (each).
- PITTARO, JOHN M., and GREEN, ALEXANDER. *Lecciones orales para principiantes*. Heath's Modern Language Series. Boston: D. C. Heath & Co., 1942 (third edition). Pp. viii+110. \$1.00.
- Regional United States: A Subject List*. Compiled by Hannah Logasa. Useful Reference Series, No. 69. Boston: F. W. Faxon Co., 1942. Pp. xvi+72. \$2.00.
- RIKER, T. W. *The Story of Modern Europe*. Edited by Howard R. Anderson. Boston: Houghton Mifflin Co., 1942. Pp. vi+382+xii. \$2.40.
- Teaching Kit (including 24 pictures; map; miscellaneous materials; and 1942 *Teacher's Manual of Aviation Aids* by William A. Wheatley, pp. 50). Chicago: United Air Lines, 1942 (revised and enlarged). \$0.25.
- TERMAN, LEWIS M., and McNEMAR, QUINN. Terman-McNemar Test of Mental Ability: Forms C and D. Yonkers-on-Hudson, New York: World Book Co., 1941. \$0.20 (specimen set).
- THORNDIKE, E. L. *Thorndike Century Junior Dictionary*. Chicago: Scott, Foresman & Co., 1942 (revised). Pp. xx+940. \$1.48.
- Unit Studies in American Problems: *Government in Business*. Prepared by Mary Pieters Keohane for the Committee on Experimental Units of the North Central Association of Colleges and Secondary Schools. Boston: Ginn & Co., 1942. Pp. viii+36. \$0.60.
- WHITTEM, ARTHUR F., ANDRADE, MANUEL J., and RIVERA, GUILLERMO. *Spanish Commercial Correspondence: Reader, Composition Book, Manual*. Boston: D. C. Heath & Co., 1942 (revised). Pp. vi+274. \$1.72.

PUBLICATIONS IN PAMPHLET FORM

- AYRES, LOVISA YOUNGS, and RODUNER, KENNETH. *Adolescent Voice Ranges and Materials Published for Adolescent Voices: A Study of the Voice Ranges of the Boys and Girls of the Eugene, Oregon Junior High Schools and of the Suitability of Some of the Materials Published for Those Voices*. University of Oregon Monographs, Studies in Education, No. 1. Eugene, Oregon: University of Oregon, 1942. Pp. vi+50. \$0.35.
- BUTLER, NICHOLAS MURRAY. *Annual Report for 1941 of the Division of Intercourse and Education of the Carnegie Endowment for International Peace*. New York: Carnegie Endowment for International Peace. Pp. 56.
- CAUDILL, WILLIAM WAYNE. *Space for Teaching: An Approach to the Design of Elementary Schools for Texas*. Bulletin of the Agricultural and Mechanical College of Texas, Fourth Series, Vol. XII, No. 9. Engineering Experiment Station Series No. 59. College Station, Texas: Texas Engineering Experiment Station, Agricultural and Mechanical College of Texas, 1941. Pp. 120.
- CHAMBERS, M. M. *Looking Ahead with Youth: A Study Guide for Use with the General Report of the American Youth Commission, "Youth and the Future."* Prepared for the American Youth Commission. Washington: American Council on Education, 1942. Pp. 30. \$0.25.
- THE COMMITTEE FOR THE STUDY OF THE CARE AND EDUCATION OF PHYSICALLY HANDICAPPED CHILDREN IN THE PUBLIC SCHOOLS OF THE CITY OF NEW YORK. *Report of the Sub-committee on Acoustically Handicapped Children*. New York: Board of Education of the City of New York, 1941. Pp. xiv+110.
- EDUCATIONAL POLICIES COMMISSION. *A War Policy for American Schools*. Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1942. Pp. 48. \$0.10.
- The Evaluation of Pupil Progress in Pennsylvania*. Research Service in Education, Bulletin 75, No. 19. Harrisburg, Pennsylvania: State Department of Public Instruction, 1941. Pp. vi+48.
- GAVIAN, RUTH WOOD, and COXE, WARREN W. "Factors Related to Pupil Progress: An Analysis of Test Data from Nine Pairs of Schools Included in the New York City Activity Program Experiment." Albany, New York: Division of Research, State Education Department, University of the State of New York, 1941. Pp. ix+128 (mimeographed).
- GILBERT, LUTHER C., and GILBERT, DORIS WILCOX. *Training for Speed and Accuracy of Visual Perception in Learning To Spell: A Study of Eye Movements*. University of California Publications in Education, Vol. VII, No. 5. Berkeley, California: University of California Press, 1942. Pp. vi+351-426. \$0.75.
- Growth and Development*. Review of Educational Research, Vol. XI, No. 5. Washington: American Educational Research Association, 1941. Pp. 475-618. \$1.00.

- Security at the Grass Roots: A Report of Co-operative Extension Work in Agriculture and Home Economics, 1940-41.* Prepared by the Extension Service. Washington: Extension Service, United States Department of Agriculture, 1941. Pp. 62. \$0.10.
- "Shop Safety: A Comprehensive Bibliography." Compiled by Wayne P. Hughes. Charleston, Illinois: Eastern Illinois State Teachers College, 1942. Pp. 27 (mimeographed).
- SULZBACH, WALTER. "*Capitalistic Warmongers*": *A Modern Superstition.* Public Policy Pamphlet No. 35. Chicago: University of Chicago Press, 1942. Pp. iv+34. \$0.25.
- Teacher Personnel Procedures: Selection and Appointment.* Research Bulletin of the National Education Association, Vol. XX, No. 2. Washington: Research Division of the National Education Association, 1942. Pp. 51-80. \$0.25.
- Thirty-sixth Annual Report, 1940-41, of the Carnegie Foundation for the Advancement of Teaching.* New York: Carnegie Foundation for the Advancement of Teaching (522 Fifth Avenue), 1941. Pp. 184.
- The University and the War: Six Addresses in January, 1942, before the Students and Faculty of the University of Illinois.* University of Illinois Bulletin, Vol. XXXIX, No. 30. Urbana, Illinois: University of Illinois, 1942. Pp. 88.
- WIEDEFELD, M. THERESA. *An Experimental Study in Developing History Reading-Readiness with Fourth Grade Children.* Johns Hopkins University Studies in Education, No. 31. Baltimore: Johns Hopkins Press, 1942. Pp. x+80. \$1.25.
- The Wreckord: The Travelers 1942 Book of Street and Highway Accident Data.* Hartford, Connecticut: Travelers Insurance Co., 1942. Pp. 36.
- UNITED STATES OFFICE OF EDUCATION PUBLICATIONS:
- Bulletin No. 2, 1941—*Education of Teachers: Selected Bibliography, October 1, 1935 to January 1, 1941* by Benjamin W. Frazier. Pp. vi+60. \$0.10.
- "Secondary Schools and the War Effort" by the Consultative Committee on Secondary Education. Pp. 9 (mimeographed).
- Vocational Division, Occupational Information and Guidance Service, Misc. 2528, 1940—"The Occupational Dictionary as a Tool in Vocational Guidance Work" by Franklin R. Zeran, pp. 14 (mimeographed); Misc. 2536, 1941—"200 Sources of Pamphlet Materials on Occupations" by Pedro T. Orata and Franklin R. Zeran, pp. v+11 (mimeographed); Misc. 2922, 1941—"Manual for Occupational Studies Leaflet," pp. 16 (mimeographed); Misc. 2923—"Occupational Studies Leaflet."

MISCELLANEOUS PUBLICATIONS

- VORONOFF, SERGE. *From Cretin to Genius.* New York: Alliance Book Corporation, 1941. Pp. 282. \$2.75.

